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AMERICAN VETERINARY REVIEW

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AMERICAN VETERINARY REVIEW.

MAY, 1909.

EDITORIAL.

EUROPEAN CHRONICLES.

PARIS, March 15, 1909.

Quite some time ago, Prof. Coquot, of Alfort, read at one of the meetings of the Société Centralé here the relation of a successful experiment, that of a case of open tuberculosis with an ugly wound, abundant discharge, etc., etc., which he had made in using a new preparation called *Ambril*. The relation passed without attracting much attention; certainly, not as much as it deserved.

Lately at the Société de Pathologie Comparée the use of ambril was again brought forward by a veterinarian, Mr. Lepinay, who, after reviewing the advantages that can be expected from it in the treatment of wounds, such as hemostasis, easy and quick application, absence of suppuration and active leucocytosis, regular rapidity in the process of cicatrization, etc., etc., presented quite a long series of cases where he had obtained all that the discoverer of the application of the compound, Dr. Barthe de Sanford, had promised.

It was the history of a cat, which had an enormous tumor of the neck, which was in such condition that death was considered as unavoidable, after its being removed, and yet recovered with the simple application of ambril.

It was that of a slut with ulcerated tumor of the mammae; that of a large mastiff dog which had a very deep wound of the posterior part of the thigh with fistulas, aponeurotic necrosis,

etc., and recovering in less than twelve days; that of a dog with an enormous tumor of the left groin, where a large, deep wound remained. One application of ambril put the wound in good way for cicatrization. And many others, of no less wonderful aspect. Of course, ambril has been used also by others. With a few the results have not been quite as brilliant. And yet I hear that in veterinary practice it is demanded by a certain number of practitioners. It has been experimented with in a number of the large humane hospitals in Paris, and out of 160 observations recorded the results have been excellent in 92%. It is even said that it is used in the French army by official order of the Secretary of War.

Taking all these facts into careful consideration, it may not be without interest for our colleagues in America to know about it should it find its way across the Atlantic.

But what is ambril? How is it used? What are its indications?

* * *

In a pamphlet under the name of *Contribution to Hyperthermal Medication*, the author, Dr. Barthe de Sanford, tells us of the analgesic, resolutive and aseptic properties of all the keri-resins, to which ambril belongs, as an anhydrous mixture of wax and resin, and which is said to possess the following properties: 1st. Asepsy and sterility, as in its preparation a temperature of 130° C. is required; 2d. Considerable caloric capacity, which stimulates and promotes phagocytose, keeping hot after it is applied for several hours; 3d. Slow loss of self heat, which allows a dressing to remain in place without being changed by keeping its temperature at 44° C.; 4th. Contractility, which allows an even and continued pressure of the surface it covers; 5th. Easy manipulation; 6th. Rapid cicatrization; 7th. Suppleness of the cicatrical tissue; and 8th. Stoppage of the hemorrhage, except for large vessels, all of which are to-day essential in modern surgery. This keri-resin is kept in metallic tubes or pulverisators, which have to be placed in the water bath or heated in some

other way so as to liquify the contents, and after a few minutes when it is melted it can be poured over the surface upon which one may desire to apply it, or again in using a coarse paint brush it is spread as indication requires. A simple dressing covers the parts, wadding and bandage. And in this way is realized an aseptic dressing with which all the properties announced are obtained.

As to the indications for its application; they are quite numerous, perhaps too much so. Old, recent, superficial or deep wounds, diseased and fistulous withers or of poll-evil, wounds of the back, with saddle or harness, granular dermatitis, fistulas, scratches, bites, quittors, broken knees, etc. Those may be all right. But when we read that a good coat on the throat in case of laryngitis, or on abscesses to bring them to suppuration, or on a swollen leg, or in case of adenitis, etc., one may think of exaggeration, and yet, perhaps, with the latent heat that the application preserves so long, why should it not do as well or even better than the local application of hot poultices or warm compresses?

For the present this is all I have to say in relation to ambril, but I am promised more interesting facts. I will send them in due time.

* * *

There has been published in the "Monatshefte fur praktische Tierheilkunde," by Dr. Erich Silbersiepe, of Berlin, a very complete study on fractures of the first pastern in horses, in which the author arrives at the important conclusion that such injuries ought to receive more attention as far as treating them, as in many instances the results are such that an animal may be able to render valuable services either for agriculture or breeding purposes and even in some cases for ordinary work. Doctor Silbersiepe has made numerous researches and gathered many observations at the surgical clinics of the veterinary school of Berlin and presents as conclusions:

1st. To the point of view of its structure the first pastern offers a special architecture, which has the most intimate relations with its functions. The anatomical disposition of its compact tissue is under the direct influence of the impressions and efforts to which it is exposed. And it is likewise for the spongy substance, which has its meshes so much more closed together that they are nearer the compact tissue so as to increase the natural resistance of the bone.

2d. Fractures of the pastern bone are relatively frequent in horses, more so in the anterior than the posterior legs, in the proportion of 3 to 1.

3d. These fractures are due to external and to internal causes, resulting from some morbid states of the bony substance. They may also be due to some peculiarities in the structure proper of the phalanx.

4th. To the point of view of their mode of production they can be classified as: sagittal, segmental, horizontal, in splinters, mixed, comminuted.

5th. As far as the process of recovery goes it includes important modifications, even in the form of the bone and some characteristic transformations in its intimate structure, which allow the fractured bone to recuperate its primitive functional integrity. In other words, in the most absolute meaning of the word *cured*, a fractured pastern is one that can be cured, and the pessimist view entertained against it is a mistake.

How can this radical cure be obtained? What is the best treatment of these fractures of the first pastern?

Doctor Silbersiepe says: First of all, and when it is a recent fracture, one must overcome the more or less developed inflammatory swelling which is seldom absent. That is done with astringents and antiseptic compresses. In Berlin, dressings made with clay and vinegar is the classical indication. These are covered immediately with a wadding padded boot, having two wooden or metallic splints running up to the knee or hock. The horse is kept tied up to prevent him laying, and it is only after a few

days that he is put in slings from which he will not be taken out until the fracture is consolidated, say, in average, two or three months. When the inflammatory swelling has subsided an immovable bandage is applied, the *plaster bandage*. This will start from the heels of the shoe and runs upwards to the knee or hock. It will be thick, well padded, regular, but not too unnecessarily voluminous. Any kind of crutches, which are patronized indeed by Hoffmann, Körner, Bidz and others, are not to be recommended, as patients generally object to them and expose the practitioner to failures due to motions or displacements of the fractured ends, resulting from imperfect immobilization. The bandage, having become defective after three or four weeks, must be taken off and a new one put in its place. This has to be done and it plays an important part in the final success. The final removal demands great care and ought to be done not before two or three months when all crepitation and all abnormal mobility have disappeared. With the bandage off the animal is taken from the slings and put in a loose box with a thick bed of sawdust, leather shavings or the like. To promote the formation of the callus, Doctor Silbersiepe recommends the daily administration of phosphorated oil in doses of one or two table spoonfuls mixed with the food, the oil being made of 0.50 centig. of phosphorus and almond oil 300 grammes. The result of this treatment, however, is doubtful if the fracture is complicated, as necrosis and arthritis are always possible. When lameness remains after consolidation the author has recourse to neurotomy.

* * *

The anatomical characters of *Tuberculous Infection* was lately the subject of a lecture delivered by Prof. Arloing before the Société Médicale des Hopitaux at Lyons, in which he recalled the fact that tuberculous infection is not always manifested, in mammalia, by macroscopic tubercles in the various viscerae. He has indeed observed, principally, that tuberculous bacilli in homogeneous cultures, whose tuberculous nature was beyond doubt, does produce on the spleen, liver and lungs only microscopic

lesions, while on the peritoneum it gives rise to tubercles. Already in 1902, at the time of the discussion upon the identity of the bovine and human tuberculosis, he had shown that with ordinary bovine and human bacilli atypic lesions could be obtained where tuberculous inflammation had failed either in the formation of tubercle or the edification of the giant cells; also that lesions without possible contest could escape macroscopic examination and again that the infection must be looked for with the microscope, when it is disseminated in the principal parenchymatous organs. More recently, Prof. Arloing has studied the lesions produced with weakened bacilli in animals. Introduced in rabbits by every door of admission, except the peritoneum, in medium or very weak doses, bovine and human homogeneous bacilli, produced as macroscopic lesions, only splenic hypertrophy. Constant lesions, often very minute, are observed with the microscope only in the liver and spleen, more seldom in the lungs and kidneys. In the liver they consist principally in gathering of embryonic intra or perilobular cells, sometimes isolating the hepatic septi but without clearly follicular formation, and sometimes when the lesions are larger giant cells are found without the tubercles. In the spleen the changes are still less marked; they consist in a few epithelioid cells or a few giant cells here and there in the Malpighian bodies or on their outside. In the peritoneum these cultures have given rise to epipleic tubercles. The lesions are somewhat similar in guinea pigs. Therefore, most commonly, visceral macroscopic lesions are not found, but only microscopic, which do not present the clinical aspect of tuberculous lesions. With ruminants, no change or only extremely slight or doubtful alterations are observed. And yet all these animals gave all the reactions, *i. e.*, oculo reaction, sero-agglutination of the tuberculous infection.

From these very interesting facts, Prof. Arloing concludes: That tuberculous infection does not necessarily impose the apparition or presence of macroscopic lesions; that it may alter the organs in their depth without leaving any appearance on their surface; that it does not always give rise to the classical tuber-

culous follicle or even to the giant cells; that atypic microscopic lesions are produced by varieties of weakened bacilli; that those lesions are not characteristic of avian tuberculosis; and that tuberculous infection, without noticeable anatomical alterations, may be accompanied by the detecting reactions of tuberculosis.

Up to recently it has not always been an easy task to make the differential diagnosis between echinococci cysts and some special abdominal tumors. But continuing their investigations on the production of antibodies in organisms infected with helminthes, Mr. Weinberg and his assistants have succeeded in showing that the serum of animals affected with echinococci contains specific antibodies; then rendering the diagnosis simple and easy, providing fresh antigen was used. Their researches even went so far that a positive diagnosis was realized with this method, not only in sheep but also in camels. More recently, Mr. Weinberg has presented to the Société de Biologie a paper in which he has demonstrated that this method can also be applied in the diagnosis of distomatosis and cysticercosis, that is, by the presence of antibodies. Here is the resumé of this communication:

"Whatever may be the receptive value of each of the two methods of fixation of the complement and of the researches of the precipitines their simultaneous use has allowed the sero-diagnosis of helminthiasis and assisted medical practitioners in establishing their positive diagnosis.

"This sero-diagnosis is specially precious in such disease as echinococcosis, when eggs of the parasites are not in the faeces. We have endeavored to find out if the serum of animals affected with cysticercosis did not also contain specific antibodies. Frequent in animals, this helminthiasis is rare in man. Yet a certain number of cases of cysticercosis have been recorded, where the diagnosis was impossible to make with the ordinary clinical manifestations.

"Lately we obtained three cases of cysticercosis in sheep. The researches of the fixation of the complement has been made

with the liquid of cysticercus as antigen, a method similar to that used for echinococci. This liquid had been first filtrated on Berkefeld bougies. The reaction obtained has been of the cleanest and most evident. The serum of the normal sheep gave no reaction.

"We then made similar experiments for the diagnosis of distomatosis. We obtained blood from the heart of eleven sheep whose liver was infected with *fasciolæ hepatica* and prepared the antigen with the parasites themselves, washing them thoroughly, crushing them in a mortar, diluting in 30-40 C.C. of physiological water and centrifugating the whole for an hour. After sifting through a Chamberland or a Berkefeld, we obtained a clear liquid which can serve to the fixation of the complement as well as to the searching of the precipitines.

"The eleven samples of serum have given a positive reaction by the method of fixation of the complement using anti-bovine hemolytic serum. In eight cases abundant deposit was obtained by mixing the serum with the liquid from the crushed distomas. To ascertain the presence of specific antibodies in the serum of animals, distoma carriers, has not the same importance as for echinococcus. These parasites are found exceptionally anywhere else but the liver; their diagnosis can then be made by looking for the eggs in faeces. Yet these experiments show that distomas do secrete toxic substances and that their absorption promotes in sheep the formation of specific antibodies."

It is a well-known fact that in many instances the diagnosis of transmissible diseases becomes easy in man if, in his surroundings, there is an animal affected with the contagious disease present—a convincing evidence that human medicine often takes advantage of what information veterinary medicine can offer. But, from the fact that because there is in a house a sick person and an animal, living ordinarily around him or her, such as a dog or cat, and that both present analogous symptoms, it does not necessarily follow that they both have the same disease nor that the animal has transmitted the trouble to the person.

This is, however, of common occurrence, says Prof. Hebrant, and he has for the past two years studied this interesting question of the transmissibility of animal diseases to man. He intends to publish soon the result of his investigations, but for the present wants to establish the fact that there are some diseases of animals transmissible to man, such as sarcoptic mange, transmitted from dogs or cats, and which presents important differential characters, which permit a distinction between this acariasis in man and that of true scabies, and in the *Annales de Médecine Vétérinaire* of Bruxelles, the professor and his assistant, Mr. Antoine, give a comparative description of the disease in both species.

In small animals sarcoptic mange is more frequent than is generally supposed. Easily recognized in cats, it is more difficult to diagnose in dogs where it is often mistaken for chronic eczema. The diagnosis is based on the contagious nature of the disease, and the presence under the microscope of the parasites or its eggs, which must be looked for in the crusts or scruffs after soaking in a potash solution. The characters belonging to the disease are the seat and nature of the lesions, the great itching they give rise to, its contagious nature and its easily obtained recovery when the treatment is strictly antisporic, all of which are well known. A special symptom not to be overlooked, however, and which is of great importance is the peculiar odor of mice, *sui generis*, given off by the diseased dog.

The contagious nature must not be overlooked. Sarcoptic mange is communicated very easily, not only from one animal, dog or cat, to others, but also to people who live with him. And when it does affect human beings the affection is very different from the ordinary mange or scabies. As in being consulted for a case of sarcoptic mange in a small animal, a veterinarian may suspect it being transmitted to its owner, he may recognize it by the following:

It is on the arms, forearms, abdomen, inner face of the thighs and in the folds of these regions that the lesions are found, the interdigital spaces are always free from them. The lesions con-

sist in small spots, looking like flea bites, which are replaced the next day by a small pimple. This is the seat of violent itching. The pimples get bigger and the trouble looks like urticaria. The scratching is accompanied with great eruption. The pimples last for several days without spreading or getting more numerous. On the contrary, they often pass away without treatment. The simple washing of the hand with soap and water is sufficient to remove all trouble without resorting to any drug. One can readily observe the great difference that exists between this sarcoptic mange and the ordinary scabies, which characterized by its peculiar pathognomonic lesions, its pruitis and the severe treatment that it requires. There cannot be any comparison between it and the sarcoptic acariasis of the dog propagated to man.

* * *

To the Committee on Publication of the American Veterinary Medical Association, I am happy to send my hearty compliments! Had the proceedings of the forty-fifth annual meeting reached me a few days earlier I could have noticed them last month. As it is, the issue has been nearly four months ahead of what it used to be and it is a wonderful progress! By this early publication facts that have occurred at the last gathering in Philadelphia are not yet entirely passed away from the minds of the many that were present and the interest has not entirely vanished.

The proceedings for 1908 form a volume of less importance, as far as size goes at least, when compared with that of 1907. It nevertheless contains matters of great importance and as much value. Of course, the various addresses of welcome are at the head of the work, followed immediately by brief records of each session in each day of the congress, and concluding with the election of the new officers, President Rutherford, with the vice-presidents, secretary, treasurer, etc.

Papers of great magnitude are not so many, but those that are published will be read with pleasure and interest. There cannot be any doubt that the reports of some of the committees will

be examined over with better opportunities to judge of their value. The report of the Committee on Diseases, with the papers of Director V. A. Moore, of Dr. J. R. Mohler, of O. E. Dyson and H. J. Milks; the report of the Committee on Intelligence and Education by Chairman Prof. Leonard Pearson, with the discussion following by Drs. Tait Butler, W. Horace Hoskins, Baker and Mayo. The report was enlarged by the addition of an exhaustive paper by Dr. D. Arthur Hughes which covers no less than 32 pages of this volume. These form the solid parts of the work of the important committees of the association. Those of the Executive Committee, of that on Legislation, on Necrology, etc., etc., follow. The long list of reports being completed by that of the resident secretaries and that of the Association of Veterinary Faculties and Examining Boards. The balance of the proceedings is made with the publication of the papers and discussions, headed by the address delivered by the Imperial German Special Commissioner for Agriculture, Mr. Nikola Kaumanns.

The record of the clinic is also very good.

* * *

After this rapid glance at the good work performed during the four days that the meeting lasted, which certainly scarcely does justice to it, may I be permitted to make a few remarks and advance suggestions, not to criticise, but merely as I would have done had it been my good fortune to be present at Philadelphia.

I must confess that, when I received the "Proceedings," I looked at once for the report of the Committee on Intelligence and Education. I had seen published in our pages the reply of Dr. Tait Butler and I wanted to see what had been the arguments presented by Dr. Pearson. And now that I have read both and also those of the other gentlemen who took part in the discussion, I must say that while accepting some of the points presented and discussed by both parties I think that some can also be rejected. But that after all, if as it must be, the fact of the action of the Secretary of Agriculture in relation to veterinary

education is accepted, as it has been by the association in fact, we must look upon it as one step which one day or another had to be taken. It is a recognition of the importance of our profession, it is the first step in the ladder which we must hope will help to raise it to its proper standard. Let us also hope that it will not stop there, and that Secretary Wilson or his successors will continue and still improve! Of course there are objections. Of course there are opportunities for errors, for mistakes, and room for better actions, etc., etc. But the move is started. The profession has received an OFFICIAL stamp of higher importance than it has ever had before.

I do not know if the secretary will keep at his disposal the gentlemen of his original committee, but let us hope that he will surround himself with men who will look strictly after educational improvements above all, without any other objects in view than those of the GENERALITY! It is certain that the minimum of education for matriculation, mentioned in the circular, and of which so little has been said in Dr. Pearson's report and in the discussion, cannot be allowed so ridiculously low as it is. It must and shall be raised. It is probable that the curriculum of the schools, the duration of the studies, will have to be modified. But what has surprised me the most is the peculiar part relating to the appointment of the professors. Is it not strange, that while strengthening his position for the right of naming to professorship, graduates of a one school returning from a EUROPEAN POST-GRADUATE EDUCATION, and while objecting to the nomination of a *recent* graduate to a professorship, both of which are right, Doctors Pearson and Butler have not approached the only true and correct way to select a professor, viz., THE COMPETITION?

For one, I hope this step will settle the question one day!

* * *

Among other communications I have had this month, I take pleasure to announce: The *Journal of Agriculture of the Cape of Good Hope*, which contains its generally useful information

and with them an article by Walter Jowett, F. R. C. V. S., on "Epizootic Pneumo-pericarditis in Turkeys," and one from H. Watkins Pitchford, F. R. C. V. S., on "Horse Sickness and Its Prevention." I have four Bulletins from the *University of Wisconsin* Agricultural Experiment Station, which contain from the pen of Dr. A. S. Alexander, an immense amount of most valuable information on the horse-breeding of the state with the laws relating to it. And then several little circulars from the B. A. I., and as I close this, the law establishing a veterinary board of examiners in Louisiana, for which Dr. J. A. Godwin tells me the ex-president of the A. V. M. A., Dr. Dalrymple, is the author. Good for Louisiana!

A. L.

REMOVAL OF FOOT-AND-MOUTH DISEASE QUARANTINE.—The Secretary of Agriculture has issued an order, effective April 24, releasing entirely the quarantine for foot-and-mouth disease, as he is satisfied that the disease has been completely eradicated from the United States.

MORE than a million persons visited the Museum of Natural History, New York City, during the year 1908, which, in large part, was due to exceptional interest in the international tuberculosis exhibition. Steps are now being taken to make a special exhibition of the life and habits of the smaller organisms in relation to health and disease.

HEROISM DISPLAYED BY HOUSE CAT.—Firemen hard at work trying in vain to save two frame houses from destruction in Corona Heights, Corona, L. I., actually stopped their efforts to quell the flames for a few minutes to witness an act of heroism performed by an ordinary house cat. Five times she rushed into the cellar of the burning two-story house at No. 10 Fairview avenue, and each time returned to the grass in front of the house and tenderly deposited a kitten she had carried out in her teeth.

The kittens were scarcely more than a week old, and mother and all were gathered up by a neighbor, who assured the owners that they would have the best of care in her kitchen until their former house was rebuilt by the owner.—(N. Y. *Evening Telegram*, April 9, 1909.)

Indexed.

ORIGINAL ARTICLES.

HEREDITARY OR TRANSMISSIBLE DISEASES IN HORSES.*

BY DR. C. J. MARSHALL, PRESIDENT PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION.

Certain defects in animals are known to be transmissible while others are so considered for the want of a better explanation. Tuberculosis was believed to be hereditary for centuries, but the searchlight of modern science has shown that this factor plays an insignificant part. The future will reveal the true cause of other diseases.

Governments and a number of states have adopted stallion registration laws for the purpose of improving type and soundness and to assist and encourage the breeding of better horses. In most cases the law attempts to prevent the use of horses that are off type or have hereditary or transmissible unsoundness or are afflicted with contagious or infectious diseases. Very few authorities state definitely what such defects are. Veterinarians often experience difficulty in passing judgment upon stallions for which licenses are requested and are frequently criticised for condemning or passing them as serviceably sound for the stud. At horse shows and fairs similar questions arise. Some may be afraid to exhibit valuable sires for fear that an unknown or abnormal condition might, unjustly, be considered hereditary and thereby ruin the reputation of the horse. For these reasons veterinarians should have decided opinions in reference to the most common defects and work uniformly, as much as possible, in passing judgment on horses for breeding or show purposes.

In order to collect evidence on this subject a circular letter was sent to about sixty well-known breeders and the same num-

*Read before the Annual Meeting at Philadelphia, March 2-3, 1909.

ber of veterinarians who have had experience in breeding. Their opinion was asked in reference to the following defects which are commonly believed to be hereditary: Vicious habits, blindness, roaring, emphyseme, spavin, curb, ringbone, sidebone, navicular disease, osteoporosis, deafness, stenosis, light bone, contracted feet, faulty attitude of limbs, low back, weak coupling, cryptorchidism, springhalt, shivers and crampiness.

In looking over this list many defects will be seen that may be produced by accident. While it is not difficult for a person of experience to recognize some of them it is sometimes impossible to discover the true cause.

The subject of heredity is very complicated and it is not to be expected that the present generation will be able to solve all its mysteries. Many horses are sound from a breeding point of view that are not even serviceably sound for saddle or harness purposes. Conditions that are caused by accidents, over-work, bad care, and some acute diseases should not ordinarily condemn animals for breeding purposes yet they may render them practically worthless for work.

Let us review the etiology of the listed abnormal conditions and see what part heredity plays in producing them.

Vicious habits cover such defects as kicking, biting, running away, cribbing, weaving, balking, etc. Most authorities agree that traits of character are transmitted, yet it is known that in a large majority of cases such defects are due to bad handling and with proper treatment many horses with decidedly vicious habits will become the most amiable. Nature has apparently done her part well, yet man's ignorance has made it appear a failure.

Several breeders as well as veterinarians have seen cases where such habits were transmitted and consequently believe that they should receive serious consideration from a breeder's point of view. Dr. John V. Newton cites the case of "Marcus Claudius," a draft stallion that he owned. This horse had a mean disposition and 50 per cent. of his get were affected in the same way.

From the evidence collected it would appear that horses vicious by nature should be excluded.

In reference to blindness, two forms are questionable, viz., periodic ophthalmia and cataract. These diseases are much more prevalent in some sections of country than in others. A few breeders, as well as a number of the leading veterinarians, expressed positive opinions in reference to their being hereditary. In the Report of the Veterinary Examinations of Stallions by the Department of Agriculture, in Australia, cataract is listed as an hereditary unsoundness. In the human family cataract of childhood is looked upon as congenital, while cataracts that develop after maturity are not so considered.

Periodic ophthalmia is not seen in the human family and it is practically the only recognized cause for cataract in horses. In the great majority of cases periodic ophthalmia develops only after maturity. Congenital cataract has been known in foals.

Some of our text books and many of the most thorough investigators consider periodic ophthalmia as infectious and cite a number of interesting cases as proof. It would appear that there is more reason at present for excluding sires or dams afflicted with this disease on account of its infectious nature than from an hereditary point of view.

Roaring and broken wind are listed as hereditary by English and Australian authorities. None of the correspondents reported a case where the trouble was believed to have been transmitted. Dr. George White, of Nashville, Tenn., reports one sire and twenty-five dams that he has known to be roarers, but mentions none of their get that were affected with bad wind, yet he believes the disease to be transmissible under some conditions.

Prince Charley was condemned for the stud in England, but was purchased and brought to Kentucky by Mr. Daniel A. Swigert. He sired two crops of colts, but none of them had bad wind so far as is known. Among his get can be mentioned the well-known Salvator. Some of his get have also made good sires and transmitted his good qualities, but no roarers.

Ormande is another example of a horse rejected by England for roaring. None of his get, in either the Argentine or this country, have been reported as affected in the wind and a number of them are well known.

Roaring is found in all breeds and all families of horses. Many of the best draft stallions have been condemned on account of roaring. Some have developed this condition after being imported at great expense and were rejected from the stud for this reason. It is known that the disease often follows influenza, strangles, pneumonia, etc., and it also develops from unknown and mysterious causes.

Experience would indicate that horses should not be excluded from breeding on account of roaring alone, in the absence of a history of roaring among the immediate ancestors, especially if the conformation of the neck and throat are good. Though extreme caution should be exercised in the use of stallions so reported.

There is no clear recorded evidence for rejecting for breeding animals afflicted with heaves or emphysema.

Spavin was described by the oldest writers on the subject of veterinary medicine and the subject has received almost constant attention for hundreds of years. Many causes and theories have been advanced. They have been classified in various ways by different authors according to supposed causes and the pathological changes observed. At the present time a spavin is considered as a chronic inflammation of the hock joint. Möller justly says that it is a collective, clinical term covering a number of extremely diversified anatomical changes in the hock. We recognize bog and bone spavins. Bog spavins are soft, painless enlargements seen on the inner, outer, and anterior faces of the hock. They are the result of an excessive distension of the capsule of the hock joint with synovia. The contents of the enlargement may be forced from one point to another by pressure. The condition is sometimes called thoroughpin. It seldom causes lameness except when in the period of formation or after hard

work in cases of excessive distension. It may be seen in young as well as old horses.

Bone spavin usually appears as a hard, bony enlargement on the internal face of the hock. It may show on the posterior face where a curb develops. There may be heat, tenderness and lameness or the enlargement may be seen with none of the other symptoms present. In some of the most obstinate forms of spavin there may be intense lameness and no apparent enlargement. It may be observed in horses with hocks of excellent apparent or superficial conformation. For this reason spavin is often difficult to diagnose.

Bad conformation is one of the most common predisposing causes of spavin and such conformation is unquestionably hereditary. The conformation in which spavins are most often found is the narrow hock, too much cut out under the hock, sickle hocks, too wide conformation, and in which the horse stands too far back with the hind feet.

Defective hocks should be considered among the worst faults in a horse. Weak hocks, curbs, and spavins have often been observed in whole families. For these reasons the hock should receive the most careful consideration in an examination of horses for any purpose. Sires or dams with weak hocks, and especially so if they show curbs or spavins and families in which this fault exists, should be rigidly excluded from the breeding ranks.

In those cases in which curbs or spavins develop at an early age before the horse is put to hard work, breeding should not be permitted. Yet it does not seem just to establish a law that would exclude from breeding all horses that have spavins or curbs. When such unsoundness are developed after maturity and especially if it can be shown that the conditions are due to injury or excessive strain and that the animals are from good families, are of the proper type and have good conformation they should not be condemned.

Of 813 stallions examined by the Australian Commission 17 were rejected for bone spavin, 5 for bog spavin and 11 for curbs. In the number examined 358 were draft horses and 270 light driving horses. Of the draft horses 3 were rejected for bone spavin, one for bog spavin and none for curbs. Of the driving horses 13 were rejected for bone spavin, 4 for big spavin and 6 for curbs. It does not state whether any consideration was given to conformation or age. It is presumed that they were rejected for these faults regardless of cause.

When considering the subject of ringbones many reasons will be observed why horses afflicted with them should not be condemned indiscriminately. Ringbones may be caused by faulty shoeing, strains, or traumatisms, and, if so, the horse having them should not be excluded, especially where the animal has good conformation and other desirable qualities.

Ringbones, as spavins, are looked upon as serious defects and like them may be due to a faulty conformation, and in this case the horse should be condemned. Long, thin pasterns, or very short, stiff, upright pasterns, and the base wide, base narrow, two wide and two narrow conformations are defects that predispose to ringbone, and conformation of this type is pretty sure to be transmitted. Horses with such faults should be excluded whether ringbones are present or not. Horses that have developed ringbones before reaching maturity or before hard work has been done should also be rejected.

Of the stallions examined for a license in Australia 8 of 358 draft horses and 3 of 270 light driving horses were condemned for this reason.

Sidebones are conditions in which the lateral cartilages of the foot become ossified either partially or completely. Heavy, coarse-bred horses are especially predisposed to develop them. They are seldom seen on the hind feet. The left front foot is more often affected than the right and the inside cartilage less often than the outside one.

Lungwitz, who examined 1,251 horses, found 144 of them affected with sidebones as follows:

Of 98 Belgian cart horses.....	68	had sidebones.
Of 120 Danish carriage horses.....	25	" "
Of 388 Heavy riding horses.....	36	" "
Of 132 Other heavy riding horses.....	0	" "
Of 133 Light riding horses.....	8	" "
Of 140 Riding horses of all sizes.....	3	" "
Of 200 Military horses	1	" "
Of 40 Officers' horses	3	" "
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1,251	144	

Of the 813 stallions examined by the Australian Commission 80 were rejected on account of sidebones as follows:

Of 358 Draft horses	77	had sidebones.
Of 270 Light horses	3	" "
Of 185 Ponies	0	" "
<hr/>		
813	80	

In answer to my circular letter, two correspondents would and eight would not reject horses afflicted with sidebones. The Australian Commission has observed the transmission of sidebones from sire to sons and from son to grandsons. In one case they examined twelve stallions from one sire and eleven of them were condemned for this defect. One of the best arguments in favor of the transmission of sidebones is the fact that in some whole families of heavy draft horses none are found.

When veterinary inspection was adopted by the Royal Shire Horse Society it was found that 33 per cent. of the show horses had sidebones. They were found more common in the coarse Shire type than in the cleaner-boned Clydesdale.

There seems to be the greatest diversity of opinion among veterinarians in reference to sidebones. Some, and among them Dr. George H. Berns, look upon them as very trivial defects, and

from observations made for many years on draft horses especially believes that a horse is but very slightly more liable to go lame with sidebones than without them. While according to others a horse is as liable to work sound on city pavements with ring-bone as with sidebone.

Möller recognizes three principal causes. The first is a congenital predisposition in heavy, coarse-bred horses; the second is excessive concussion produced by work or hard roads; the third is due to shoeing with calks, by which the frog is prevented from taking any bearing on the ground and the lateral cartilages are subjected to a continuous, downward strain.

Horses with sidebones cannot be passed as sound for hard work on the city pavements. They are not infrequently seen on green draft horses fresh from the country. While we must admit that many horses with sidebones are serviceably sound yet a large percentage of them will go lame as a direct result of this defect or from secondary diseases of the hoof coming therefrom. It would appear that we are justified in condemning stallions for breeding purposes when sidebones develop before they have been shod or have done heavy work on hard roads.

Very few of my correspondents expressed positive opinions in reference to the transmissibility of navicular disease. Dr. Edgar Powel mentions a mare that he owned and used for breeding purposes that he believed to have had this disease for twelve years. The diagnosis was not confirmed by post-mortem examination. She was bred to a thoroughbred stallion once and four times to a hackney. Most of the colts were unusually good. Two at least were show horses. All of them developed into sound saddle and harness horses, worked hard, and none of them ever showed a symptom of navicular disease. On the other hand, equally convincing cases that showed a hereditary tendency were cited by other veterinarians. It may require months to make a positive diagnosis of navicular disease and it is then best completed by an autopsy. The condition is practically incurable, and in advanced cases neurectomy is the only means by which the animal's usefulness may be prolonged.

Cadiot reports that out of 403 horses brought to the Alfort clinic from 1896 to 1897, 106 were suffering with different affections of the feet and navicular disease was diagnosed in six. Probably about one per cent. of a veterinarian's practice will be navicular disease. Contracted sole may show practically the same symptoms and is often associated with it. Contracted sole is curable in uncomplicated cases and the animal can be restored to soundness. The Australian law does not list navicular disease as transmissible.

It is most often seen in well-bred horses; in draft horses seldom, and it appears usually in the front feet and most often in horses with deep, steep, contracted heels, yet it is often seen in feet of the best conformation and has been found in the hind feet.

The causes mentioned by Möller are heredity, traumatisms and metastases. As metastatic causes, diarrhoea, various general infections as strangles have been suspected. Direct violent traumatisms may play a small part in the production of the disease, but the usual cause is the traumatism of wear; the pounding and strain of work.

The pathology of the disease is fairly well understood, but as to cause, prevention and treatment there is still much to be learned.

It would appear just to condemn, for breeding purposes, horses afflicted with this disease where it has developed from small cause, where it is of long standing and both feet are effected.

Osteoporosis is one of the listed hereditary unsoundnesses in the Australian law. From observations made in this country it could not be so considered. Many cases sent to the country recover and so far as could be learned no outbreaks have occurred in sections to which such cases have been sent.

Several bad cases of big head in fillies were sent to Mr. Henry Fairfax in Virginia from near Philadelphia. All made a

complete recovery by the time they were five years old. They were regularly bred and the disease never appeared in their colts on the farm.

If osteoporosis is due to infection or malnutrition as many investigators believe at present, there is no reason for considering it hereditary. The evidence is, however, strong in favor of the theory of infection, and warrants breeders in isolating or destroying well marked cases.

The following quotations from an article written by M. J. Basset, of the Alfort School, and printed last year in the *Recueil de Medecine Veterinaire* on the subject of "Osteomalacia" is as follows: "Osteomalacia is common in man, horse, ox, goat, sheep, swine, dog, rabbit and rat.

The disease is known by various names which change with investigators according to the way that the symptoms and alterations strike their fancy. The term "osteoporosis" implies that after macerating and drying the bone is porous and light. "Osteomalacia" implies fragility of the bones or that they break easily. "Osseous cachexia" is a state of profound misery in which the patient is not able to take the necessary amount of nourishment. In swine it is known as gout or foot disease. "Sniffles" is a term often applied to it in swine when the nasal cavities are restricted by the increased thickness of the vomer and the other bones of the head which restrict the air passages and cause loud breathing.

In horses it is sometimes called "Bran Disease," because it develops often in Switzerland and Germany in millers' horses which are fed freely on bran.

We prefer the term "osteomalacia," because the partial or total softening of all the bones of the body described by the first observer is always present. We believe that it is logical to reserve this ancient designation until the true cause of the disease is discovered and it can be given a more precise and suitable name.

The list of predisposing causes is rather long. One finds, as in all infectious diseases, circumstances for diminishing the re-

sistance of the organism. The determinate cause of osteomalacia is still unknown. The solution of the problem should appear soon for the reason that Mousau has reproduced the disease experimentally in swine and goats. Mousau and Charrin have reproduced it in a rabbit. This was done, says Mousau, either by cohabitation with an affected animal or by the subcutaneous inoculation of the bone marrow during the beginning or the active period of the disease.

In a preliminary communication to the Academy of Medicine of Turin, February 2, 1906, Morpugo gave the results of numerous experiments on young and adult white rats. In these experiments, which were begun in 1899 and partially reported in diverse publications, the author produced the disease at will, either by cohabitation or by the inoculation of germs supposed to be diplococci isolated from subjects that were affected with the disease. Observations are numerous which indicate clearly the infectious nature of osteomalacia.

In 1874 Paul Bouley summed up the many observations on the subject of osteomalacia in man and domestic animals. He wrote, at that time, that the only therapeutic proceedings that had rendered service was emigration from the place where the disease developed or removing the animal to a richer locality. It is now known that the richness of the soil has nothing to do with curing the disease. Captain Robertson, in an article on "Osteoporosis" in the *Veterinary Record*, says in reference to affected horses that they recover by simply removing them from the infected district without even changing the food. No treatment is effectual except a complete change of location. He cites a village where it was proven that the disease was imported by a race horse. Pecaud cites a similar case. At one time the disease was recognized only in the state of Dape Cau, Indo-China. The afflicted animals were sent to Sontay where they improved or recovered. For the past three years Sontay has been badly afflicted with the disease.

In regions where the disease is epidemic it has been attributed to the soil, climate, etc. At times droughts or too much humidity may play a part, yet the disease is not found alone under these conditions.

No information was received on the subject of deafness.

The following is an interesting instance of inherited unsoundness:

The black mare, "Ebony Belle," made a few sensational appearances in the show ring. She developed suddenly a severe lameness in the near hind leg at the Philadelphia show. The condition was considered as a light attack of azoturia. She recovered fully in a few minutes, but developed the same condition in her next show appearance which was at the Garden the following fall. Again the veterinarians diagnosed azoturia and horsemen called it "kidney shot." She was retired from the show ring, but would develop the same peculiar lameness whenever she was exercised. She was bred two years and not driven or ridden during the time. She had two foals which developed the same character of lameness soon after being broken. The writer suspected stenosis of the external iliac artery in the dam and by a rectal examination verified the diagnosis. She was then destroyed. The diagnosis of stenosis in the case of the foals was made by the history alone. It would appear that the trouble in them was plainly due to hereditary cause.

Lightbone, faulty attitude of limbs, low back and weak coupling are faults of conformation. There can be no question but that defects of this character can be transmitted. Breeders should not use such animals. Stallions with these defects should be classed as nondescript specimens and those that do not possess true race characteristics, are off type, etc., should be prevented by law from service in the stud.

Contracted feet may be the result of bad care or improper shoeing and if so would not be transmissible. Where it is known to be a faulty characteristic or a congenital defect it is looked upon as transmissible.

Cryptorchids and monorchids are usually spoken of as ridglings. There is difference of opinions among breeders in reference to this condition being transmitted. The operation of gelding them is not well understood by the average castrator and fatalities are more common than in the normal operation. For this reason breeders should consider the advisability of using ridglings.

The true cause and pathology of stringhalt, shivers and crampiness are not known. Stringhalt is sometimes seen with spavin or a defective hock and if so should be rejected. No cases were reported where sires or dams with these defects were bred and no opinions were given in reference to their transmissibility.

It is hoped that the subject of hereditary diseases will receive more united study in the future. This question should interest breeders and veterinarians. Our profession will be called upon in the future more than in the past to give opinions in reference to it.

Stallion registration laws are beginning to be recognized as necessary and wherever they have been intelligently enforced there is a marked improvement in the type and character of horses.

A nondescript brood mare can do but little damage compared to the harm that such a stallion may cause in a breeding district. The ideal horse should be free from defects of all kinds, but great injury or injustice would result to the breeding industry if only such perfect animals were allowed to breed for the reason that there are so few perfect animals. To know how far one can safely go in overlooking defects is a difficult question. If we had true statistics on all that might be known in reference to the subject we would be better prepared to make laws and regulations for the future. We should attempt in all possible ways to collect true facts on this important subject.

In the meantime, laws disqualifying horses from breeding on account of unsoundness should be conservatively drawn. The following is the Pennsylvania statute of 1907 on this subject:

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Stallions afflicted with hereditary, contagious or transmissible unsoundness or disease may be refused license by the State Live Stock Sanitary Board; and when license is so refused the said stallion shall not be used for public service for profit or gain in this state, provided, however, that a license may be refused under this section only when it is certified to the Board by the State Veterinarian that the stallion in question is afflicted with an hereditary, contagious or transmissible unsoundness or disease of such a nature, or that the abnormal condition is accompanied by such a defect or conformation, as to render it probable that the progeny of the said stallion will be especially liable to said unsoundness or disease. Blemishes and deformities due to accidents shall not be regarded as unsoundness within the meaning of this act.

DISCUSSION.

Dr. Radley—In your opinion, do you think a stallion would be refused registration because of heart disease, and should he transmit roaring to his progeny?

President—There are a great many good horses who have been bred from horses who are roarers. The heart trouble may be transmissible. I should not consider it so unless it were due to congenital cause or due to accident as from influenza. I do not think it would be permissible.

Dr. Harger—I think that horse should be condemned by all means. I would condemn it for roaring. The condition of the heart might be acquired over which the animal had no control whatever. They may have hypertrophy from infectious disease.

Dr. Radley—Do you think the roaring would come from a hypertrophy because of nerve connection, the recurrent nerve?

Dr. Harger—The same infection that gave the horse a hypertrophy of the heart might have caused the roaring. The condition Dr. Marshall spoke of of a horse brought into this country, condemned in England because of roaring, and recovering in this country and producing good get. It is a question whether they were justified in condemning him. A number of horses

have been brought from England who were not able to race in England, but raced well in this country. I do not believe that was real roaring. I mean due to paralysis of the recurrent nerve. If he has roaring in England he is a roarer in America. We might explain this by saying it might have been a natural weakness of the muscles of the larynx which caused a slight tickling because of the damp moist climate in England. No disease, just a condition in which the muscles were not quite as strong. That differs just enough with a damp, foggy air; in this country where the air was dryer, less moisture, larger percentage of oxygen, the muscles were powerful enough to dilate the air vessels to admit air enough and prevent roaring. There would be no legitimate argument in that case of producing a roaring get.

Dr. Rectenwald—I would like to ask Dr. Marshall did he ever see a roarer that had neither hypertrophy, but had tumor in mediastinum? I had a case of that kind. The man had a horse of jet black, fine animal, weighed probably 1,500. The horse did not show any sign. All at once he commenced to roar. I could not find any trace, the temperature did not rise any. I invented a tube and put it in and out a one and a quarter opening.

President—I wish this subject might be continued at our next annual meeting. I think it would be well worth our while to study it, so we might get where we belong on the subject of transmissible diseases.

Dr. Radley—I believe, after a series of years of observation, that there is a condition of the bone beyond the strain of the tension on the part which causes a predisposition to spavin or ringbone or any exostosis. Of course, I admit that the strain on that point brings about a condition, but beyond that I think there is a condition of the bone, in the bone cell, that is bred in that bone, that partly causes the trouble.

President—How do you get around this, you find the best quality of bone in thoroughbreds, you find spavin, in the best kind of bone in the skeleton at least?

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Dr. Radley—You cannot make the diagnosis from external appearances.

Dr. Hoskins—The other point is the fact that the animals you quote are put to the most severe kind of work and without regard to their fitness for doing work at the time these accidents occur.

President—In thoroughbreds you will find spavins and ringbone before they have ever been on the track, but you don't find draught horses that way. I think if you take draught horses and the ordinary thoroughbred you will find spavins on the thoroughbreds and you will not find them on the draught horse.

Dr. Harger—I would modify that a little bit. In regard to the statement of finding spavin in horses of fine bone. You may have draught horse with spavin. You will find bone and bone. If you will find good, hard, silky bone, unless that horse is put to extreme use, I don't think he is going to throw out ringbone. Take the horses Dr. Marshall speaks of, they are made of cotton. They inherit it from some faulty quality in the bone of some ancestor. They don't have good bone. But take the ideal thoroughbred, with clean, fine bone, whose ancestors have been free from defect, that is the kind of horse in which we are the least apt to find bony growth. I see these things in the clinic. We have horses coming in with every bony trouble they can have. On two, three and four legs. I generally find they are horses that belong to the lymphatic type; they are thick skinned, the joints are full of connective tissue. The joints are not clean, the bony tuberosities are not clean. It is not the fine, clean bone that you find in the thoroughbred. When you find the conditions Dr. Marshall describes, I believe you are dealing with a thoroughbred of faulty bone.

Dr. Marshall—I will admit you will find them in the best thoroughbreds and in the worst.

Dr. Rectenwald—I think we better come down, we don't need that kind of horse. We want good, sound horses.

President—My paper might lead you to be too liberal if you follow it. It is not my intention that we leave ringbone and spavin in the list, but I did write it to show that we should not condemn everything. I think you will make mistakes and get the horsemen down on you if you are too particular.

Dr. Radley—We cannot afford to cater to the horsemen if it is the truth.

Dr. Hoskins—I move that this discussion be continued over to the semi-annual meeting.

Carried.

THE veterinarians throughout New York State will be pleased to learn that assembly bill number 221, amending the law relating to the practice of veterinary medicine in the State of New York, passed the Senate April 21st, and, with the Governor's signature will become a law.

VASECTOMY FOR CONFIRMED CRIMINALS AND DEFECTIVES.—The sterilization of criminals and defectives by vasectomy is becoming a live question in many directions. This method of combating the transmission of criminality and other mental defects—a peril that has assumed such proportions as to arouse the attention of most civilized countries—has now been in use in Indiana for two years, and recently has been legalized in Oregon. The matter has been taken up by the Chicago Society of Social Hygiene, with a view to public education thereon and the introduction of some similar measure in the State of Illinois. There is a bill (No. 249) now in committee of the Illinois senate which appears to cover the ground, though the words "or castration" might with advantage be omitted, as tending to arouse needless opposition. The state's concern in the matter is limited to the prevention of procreation of hereditarily defective offspring, and this appears to be perfectly effected by the safe, harmless, non-mutilating operation of vasectomy. There are doubtless many who realize the necessity for some measure that will limit the output of ready-made potential criminals and defectives, who, nevertheless, are strongly opposed to what they consider the barbarous practice of compulsory mutilation, and these will have little fault to find with vasectomy.—(*Journal of American Medical Association*, April 3, 1909.)

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Indexed.

THE SECRETION OF MILK.*

BY PIERRE A. FISH, N. Y. STATE VETERINARY COLLEGE, ITHACA, N. Y.

Of the various secretions found in the animal body none is of greater practical or direct interest to humanity than that from the mammary gland. For a greater or less period after birth milk is the only food with which the young animal can be nourished. During this period the young animal thrives and gains in weight at a more rapid ratio than at any other time during its existence. This fact indicates that the nutritive constituents of milk are arranged in the best proportion not only as to digestibility and to satisfy the requirements of the tissues, but to stimulate them to greater activity as is evidenced by the phenomenon of rapid growth.

In the human being and monkeys a single pair of mammary glands are present and are located on the thorax; in the cow and horse they are located on the abdomen, while in the pig, bitch and cat they are located on both thorax and abdomen. The latter animals bring forth their young in litters, but there is not necessarily any correlation between the number of the young produced and the number of glands present.

The glands do not become active until the end of pregnancy or the birth of the young. The first excretion, known as colostrum, differs in some interesting particulars from milk. It contains a considerable amount of albumen, little or no caseinogen and numerous so-called "colostrum corpuscles," which are probably mast cells or leucocytes. It is believed by many that the colostrum has some purgative action and serves the purpose of clearing from the alimentary canal the material that has accumulated in it before birth. After a short time the constituents of the colostrum change, as the secretion goes on, to form true milk.

* Read before the New York State Veterinary Medical Society.

That there is an intimate relationship between the activity of the mammary glands and the generative organs of the female there can be little doubt. Starling, an English physiologist, has demonstrated very recently that when an extract made from a foetus was injected into the tissues of a virgin female that the mammary gland became active and a secretion of milk was actually produced, thus indicating that in the foetus there is some substance or property which has a direct action upon the mammary tissue.

The mammary glands are undoubtedly epidermal structures. They are comparable in development to the sweat or sebaceous glands. It is not clear with which set of these glands they should be homologized. In the albuminous and fatty constituents of their secretion they would suggest a relationship to the sebaceous glands, but histologically the single epithelial layer of the alveolus points to a connection with the sweat glands.

The fact that the various constituents of milk are not found as such in the blood or lymph indicates that the gland cells are actively concerned in the production of the secretion.

The cells themselves present different appearances according to the activity of the gland. In the resting period the cells are flattened or cuboidal in form. They present a somewhat granular appearance, show but a single nucleus and have few or no fat globules in them. When the active formation of milk occurs the cells increase in length, projecting toward the lumen of the gland, the nuclei divide and many of the cells contain two or more nuclei.

Fat droplets develop in the protoplasm, especially in the free end of the cell. The granules, which in the resting cell are spherical, appear to elongate and assume a somewhat threadlike form. The climax of this change occurs when a portion of the end of the cell undergoes solution or disintegration and passes into the lumen of the alveolus. The fragments of this disintegrated portion of the cell help to form the secretion; part of it goes into the solution to form, probably, the albuminous and carbohydrate constituents, while the fat droplets are set free to

form the milk fat. Apparently the fixed portion of the cell regenerates its protoplasms and thus continues to form new material for the secretion. In some cases the whole cell may apparently undergo dissolution, in which case its place is taken by a new cell formed by the cell division of one of the neighboring cells.

The composition of milk varies considerably in the different species. The secretion may vary at times in the same individual, according to diet, exposure, temperament, etc. The richest milk appears to come from the bitch, the poorest from the mare. Human milk is richer in sugar and poorer in protein than cow's milk, but the fuel value is about the same.

Composition of Milk.—The chief bulk of milk is water which may vary in unadulterated milk from 90% in a poor product to 84% in an unusually rich milk. The corresponding solid matter, or "total solids," therefore, varies from 10% to 16%. The solid matter, or "total nutrients," is made up of protein, fats, carbohydrates, and mineral matter. The proportion of these varies within certain limits, but, roughly speaking, one-twentieth of the total solids are mineral substances, one-fourth protein, three-tenths fat, and four-tenths carbohydrates.

The principal protein or nitrogenous compound of milk is casein. When the milk is drawn from the cow this is in the form of caseinogen, but it undergoes changes which convert it into casein. In chemical composition the casein differs from the other protein compounds of milk in that it contains both phosphorus and sulphur. Beside the casein there is a certain amount of albumin present called lact-albumin which is quite similar to the albumin of the blood or the white of egg. The quantity of lact-albumin is very much smaller than that of the casein, averaging about one-seventh of the total protein. There are also insignificant quantities of other nitrogenous substances present. The total protein of milk should not vary greatly. It will average not far from 3.3% of the whole milk, or about 25% of the total solids.

The milk fat is commercially the most important of its constituents as it is the source of butter and enters largely into the composition of cheese. Chemically, the fat of milk, or butter-fat as it is more often called, consists of several different fats. The chief of these are the same fats that are found in fat meat (tallow, lard, etc.), as well as many vegetable fats. They are called stearin, palmitin and olein. Besides these three fats there are others in smaller amounts, but of considerable importance, because it is to them that the flavor and aroma of the butter and cream are due. The amount of fat in milk varies widely. The amount of fat should not fall below 3%, and, except in unusually rich milk, will not exceed 5%. Good, unadulterated milk from a herd of well-fed cows should average not far from 4% of butter-fat, or about 31% of the total solids of the milk.

The chief carbohydrate in milk is lactose or milk sugar. This sugar is similar in chemical composition to cane sugar, but is not nearly so sweet. Commercially, it is largely used in medicine as a basis in powders, pills and tablets. In amount, it ranges from 4% to 6%, but on the average may represent about 5% of the milk, or about 38% of the total solids.

The color and opaqueness of milk are due mainly to globules of fat which are very minute and are almost innumerable. These are held in suspension in the liquid in the form of an emulsion; but, since they are lighter than water, after the milk has stood for some time, they gradually rise to the surface and thus accumulating form cream.

When milk has stood for some time the milk sugar undergoes decomposition, whereby lactic acid is formed and the milk becomes sour. With the souring of milk there is a change in its consistency and it becomes thickened or curdled.

The use of sour milk as a therapeutic agent is growing with the medical profession. It appears to possess useful properties as an intestinal antiseptic. Its continued use has been recommended by Metchnikoff as maintaining the health and prolonging the life of the individual. The souring of milk can be ef-

fected by the addition of an acid, vinegar for example. When milk thus curdled is neutralized with some alkali, such as lime-water or soda, the curd is redissolved. Milk is also curdled or coagulated by rennin and the curd thus produced is used in the manufacture of cheese. Unlike that of ordinary milk this curd is not dissolved by the addition of lime-water or soda.

When milk is boiled a film or scum forms upon its surface. The heat causes a coagulation of the protein, chiefly the albumin, and possibly to some slight extent a portion of the casein. If the film be removed and the milk again heated another film will form and this may be repeated a number of times.

Milk is slightly heavier than water, its specific gravity ranges from 1.029 to 1.034 at 60° F. This means that while a quart of water weighs 2 pounds $1\frac{1}{3}$ ounces, a quart of milk weighs from 1.029 to 1.034 times as much, or not far from 2 pounds $2\frac{1}{2}$ ounces. The specific gravity depends upon the proportion of water and other substances. Since the fat is lighter than water the richer the milk is in butter-fat the lower its specific gravity, provided that the other solids are not increased proportionally. It follows, also, that the removal of the fat increases the specific gravity, so that skim milk has a specific gravity of from 1.033 to 1.037. On the other hand, the addition of water to skim milk brings down the specific gravity.

There is probably no other food which is liable to a greater variation in its composition than the milk supplied to the consumer. The variations are so great that one man may pay nearly twice as much as his neighbor for the same amount of nutriments when both buy it at the same price per quart. The causes of such variations are quite numerous, among which may be mentioned adulteration by the addition of water or the removal of a portion of the fat. Variation is also dependent upon the breed and individuality of the cow, the methods of feeding and handling and the length of time since calving.

If the health and vigor are as good, young cows generally produce richer milk than old ones. A well-fed cow gives more

and better milk than one which is poorly fed. The average cow of a given breed possesses certain capabilities for producing milk, but does not reach her normal standard of production unless she is well fed. The composition of the food does not appear to greatly influence the relative proportions of the fat, casein and sugar. When once the cow has a sufficient and well-balanced ration, neither the composition nor the amount of the milk yield appears to be greatly improved by either increasing the ration or changing the proportion of its ingredients.

The flavor of milk is frequently affected by the food eaten by the cow. It is a well-known fact that turnips when fed to cows give a peculiar taste to the milk. Certain medicines may produce similar results and may also produce medicinal effects upon the calves suckling from them.

As a food, milk is well adapted for use by man. It contains all of the four classes of nutrients—protein, fats, carbohydrates, and inorganic matter—in more nearly the proper proportion to serve as a complete food than any other food material, although no one substance can serve as a complete food for an adult. It is in a form well adapted for varied uses, either alone or more especially in combination with other food substances, and in the preparation of various dishes for the table. Its use is already considered indispensable in many such cases and it might profitably be used in many more. At the price paid ordinarily for milk in the large cities it is a food of reasonable cheapness, and at the prices prevailing in small cities and country towns it is an economical food.

I HAVE accepted an Inspectorship with the Department of Agriculture and my address will be North Portal, Saskatchewan. I am anxious not to lose a copy of the REVIEW.—(G. H. Acres, V. S.).

THE Legislature of Colorado has passed the Veterinary Practice Act. It is said to be a much stronger bill and to afford better protection to the veterinarian and to the public than the law now in force.

PROFESSIONAL ETIQUETTE.

BY DR. W. A. DUNBAR.

Paper read before the Veterinary Association of Manitoba, Feby. 16, 1909.

Mr. President and Gentlemen—In fulfilment of a rash promise made by me at the last semi-annual meeting of this Association, I have made an effort to prepare a short paper on a subject which I hope will be more or less interesting to the members present at this meeting. After due consideration, I selected "Professional Etiquette" as the basis of my remarks. Professional etiquette, as I understand the term, comprehends the bearing, attitude and general conduct of a professional man towards his fellow practitioners. Having had thirty-three years' experience of professional life, I will take the liberty of relating some personal observations on the subject under consideration. During that comparatively long period I have been in contact with many co-practitioners, and have had ample opportunity of judging as to the mental, moral and professional status of many of them.

In taking a retrospective view of my experiences with my professional brethren I am forced to the conclusion that we veterinary surgeons are, in some instances, fish of a curious scale. In making this statement I do not wish to insinuate that undesirable peculiarities are more prominent in the characters of veterinary surgeons than they are in those of the human race generally. The members of the veterinary profession, like those of every other profession, are drawn indiscriminately from the great human family, and they are therefore possessed of all the faults, frailties and pure cussedness, together with some of the more desirable mental and moral heirlooms of fallen humanity. If a man is born a gentleman, no matter if his advent into this world took place in the midst of comparatively poor surrounding, a gentleman he will probably remain throughout the term

of his earthly career, irrespective of educational influences; but if a man is born a boor, even in the midst of affluence and with the proverbial silver spoon in his mouth, a boor he will probably remain during the period of his natural existence, notwithstanding the educational advantages, veterinary or otherwise, which it has been his privilege to receive. In his case the truthfulness and applicability of the Scriptural axiom "The Ethiopian cannot change his skin, nor the leopard his spots," is abundantly verified. It is very evident that both the classes which I have just mentioned are represented in the veterinary profession. There are those in our ranks, I am glad to state, whose behavior towards their professional brethren is marked by good will, good fellowship and a full recognition of the rules which should govern the words and actions of professional men towards each other. At the risk, however, of being considered unnecessarily censorious, I am constrained to state that we also have within our ranks men who, apparently have not yet learned the simplest rudiments of professional etiquette. Men who strenuously use every effort to gain practice and to establish a reputation, spurious though it may be, by encroaching on the rights of their fellow practitioners and by insinuation and innuendo endeavoring to detract from their good name. The crest of this class of individuals appears to be a skunk and carrion crow united, and motto "every man for himself and the devil for us all."

In days gone by when the veterinary profession was chiefly in the hands of charlatans and mountebanks, when the main accomplishments of the so-called "horse doctor" were swearing, smoking and chewing tobacco, drinking, telling yarns and talking "hoss," and when his medical and surgical knowledge did not exceed the limit of bleeding, blistering, gelding and physicking. Under such conditions one could not expect to find any observance of the rules governing professional etiquette. But, in this eminently progressive age, we find that the practice of veterinary medicine and surgery has been elevated to its rightful place as one of the learned professions. This being the case,

we, its members, should strive to uphold its dignity, not only in an educational sense, but in our deference for, and general bearing towards, each other as professional gentlemen, always keeping in view the fact that our words and actions are noted and commented upon by our clients and by the public at large.

The veterinary profession has, during the last two or three decades, been dignified and popularized by the scientific research of many of its eminent members. This is pre-eminently an age of progress in the scientific arena, and in no department of science is progress making more rapid strides than in the branch which we as veterinary surgeons represent. The theory of micro-organisms, causation of contagious, infectious and other diseases has been principally established by experiments made on the lower animals, and it should afford us inspiration to know that many experiments have been successfully conducted, and many important discoveries have been made in this line, by veterinary surgeons. The veterinary profession is specially progressive in its tendencies, and it has already done a great deal towards alleviating suffering among the domesticated animals, and in stamping out some of the more serious diseases to which they are specially liable; and has therefore greatly enhanced the prosperity of stock-breeding countries and communities. As members of that profession, let us instead of backbiting each other and endeavoring to tarnish or belittle each other's good name, put our shoulders to the wheels of its upward and onward progress. True we cannot all become brilliant luminaries in our profession, but we can all exercise the natural and acquired gifts with which we are possessed in a manner which will be more or less profitable to our clients and ourselves, and which will give no occasion for criticism on the part of our fellow practitioners.

I will close this somewhat rambling paper by mentioning a few things which, in my humble opinion, are not quite in line with a strict observance of professional etiquette:

First. When a consulted veterinarian has given his opinion of a case in the presence of the owner of the animal and the vet-

erinarian in charge, in which he heartily commends the treatment pursued, but afterwards privately insinuates to the owner of the animal that had it been his case he would have treated it somewhat differently.

Second. When a veterinarian, by request, or not by request, of the owner, visits a patient without the consent or knowledge of the attendant veterinarian.

Third. When a veterinarian solicits the patronage of a stock owner, being at the same time well aware that said stock owner has for years employed, and does employ, the services of another veterinarian.

Fourth. When a veterinarian, while standing at a street corner, hails a passerby, who may be driving a lame horse, or a horse with an excoriated neck or shoulder, and announces himself as a veterinary surgeon, saying at the same time that he can cure the horse of his ailments. Such conduct on the part of a qualified veterinary surgeon may not be, in a strict sense, a breach of professional etiquette, but it certainly savours a good deal of quackery, and is degrading to the profession.

Fifth. When a veterinarian, through jealousy or some other equally sinister feeling, so far forgets himself as to speak of a fellow practitioner, behind his back, of course, as being an "old granny," an "old lady," a "back number" or some other epithets equally elegant.

Sixth. When a veterinarian by word or action, or in any other manner wilfully attempts to depreciate the good name of a fellow practitioner, for the express purpose of building up his own reputation.

Seventh. When a veterinarian for a paltry bribe from the vendor of an animal will pass that animal as being sound, when he knows it is unsound, and thus betray the confidence of his client.

We veterinarians are human, some of us very much so, and when we have conclusive proof of the unprofessional conduct of a brother practitioner towards us, our human nature sometimes

asserts itself and prompts us to retaliate when an opportunity presents itself. Retaliation is, however, under any circumstances, unwise, as it only serves to perpetuate strife and ill feeling. To use a common expression "life is too short" for us to make it unpleasant for ourselves and others, by either our conduct or conversation. Gentlemen, let us commit to memory the golden rule, "Do unto others as ye would that they should do unto you," and practice it.

I BELIEVE that no up-to-date veterinarian can afford to be without the REVIEW—the best exponent of veterinary science in America.—(*Wm. Drinkwater, V.S., Monticello, Iowa.*)

THE Kansas City Veterinary College is clearing ground for the erection of an additional college building which will cost approximately \$75,000. This building is to be constructed of reinforced concrete and will provide several class-rooms, a large library room, a gymnasium, and a general assembly room with a seating capacity of about 1,200. The enrollment during the last college session of over 500, with a correspondence pointing to a still larger enrollment for the oncoming session, has necessitated increased and better facilities. Kansas City is in the centre of a vast agricultural district which is yet sparsely provided with qualified veterinarians, and the management of the K. C. V. C. intends to do its part toward qualifying men to meet the needs of this great agricultural section of our country.

USE NATURE'S MEANS TO RETAIN THE UTERUS AND RECTUM.—I have discovered a means of retaining in the prolapse uterus and rectum of animals, nature's instrument, which is far superior to any means I have yet seen or heard of, and has been very effective in my hands, being a success in every case. I find all that is necessary is to take a broad bandage or rope and tie to the tail of the horse, cow or dog high enough up on the tail so that the two ends of the rope or bandage when taken between the legs of the animal, and tied over the back, that the tension will be sufficient to pull the tail down snug. The animal cannot very well strain and force out the uterus or rectum when the tail is tied down snug; it has to first raise the tail. The animal can have a passage of the bowels and bladder with the tail tied down. I keep it tied about forty-eight hours and by that time everything has adjusted.—(*Mark White, V.M.D.*)

REPORTS OF CASES.

"Careful observation makes a skillful practitioner, but his skill dies with him. By recording his observations, he adds to the knowledge of his profession, and assists by his facts in building up the solid edifice of pathological science."

ECHINORHYNCHUS CANIS.

B. F. KAUPP, B.S., D.V.S., Pathologist, Veterinary Department Colorado Agricultural College.

The object of this article is to report the finding of a parasite which appears to be an unnamed species. Four specimens of a worm taken from the intestines of a dog were sent to me



FIG. 1.—*Echinorhynchus Canis*. Natural Size.
a.—Cephalic extremity.
b.—Caudal extremity.

by Dr. J. W. Parker, of San Antonio, Texas, for classification. Figure 1 shows the adult worm in its mature state. It will be noted that it measures one-eighth of an inch in diameter and one-half inch in length. It has a few transverse markings which appear to be wrinkles in the cuticular surface rather than regular and definite rings. The cephalic extremity tapers rather abruptly, in this respect resembling the *Echinorhynchus Gigas* of the hog. A microscopic examination of this part shows a globe-shaped protractile proboscis which is armed

with six rows of hooklets which irregularly alternate. This is the same number and arrangement as we find on the Genus *Echinorhynchus* of the hog. There is a slight swell succeeding the head which terminates rather abruptly at the juncture of the body.

While these hooklets have the same shape and arrangement as the species of *gigas*, they are much smaller in size as may also be said of the globe and diameter of the worm. Cut No. 2 is a pen drawing of the proboscis.

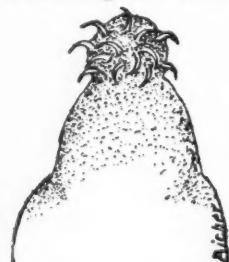


FIG. 2.—*Echinorhynchus Canis*. Globe shaped proboscis showing hooklets.

These specimens were not in a condition to enable me to make a study of the internal organs in the minutest detail. Cut

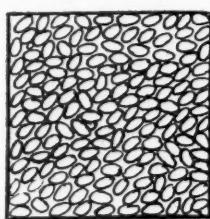


FIG. 3.—*Echinorhynchus Canis*. Section thru uterus showing ova.

No. 3 shows a section of the uterus with ovoid-shaped eggs. The uterus filled the major portion of the body. The eggs were not in the process of segmentation indicating that possibly it is an oviparous parasite. Its habitat, as stated before, is the intestine of the dog. It holds on to the mucous membrane by means of its six rows of hooklets and absorbs through its integument nutrients taken in by its host and digested. It should be placed in the genus *Echinorhynchus* as it has the general characteristics of that key, and the writer suggests the special name *Canis* as it is found in the dog.

GRANULATING TUMORS OF THE SEPTUM NASI.

By HOWARD E. WINTER, D.V.S., House Surgeon at The Berns Veterinary Hospital, Brooklyn, N. Y.

On January 18th a gray cart horse about nine years old and in good general health and condition was admitted to the hospital, said to be unfit for work by reason of difficult breathing and an occasional hemorrhage from both nostrils.

Examination revealed angry looking granulating masses nearly the size of a hen's egg attached to the anterior portion of the septum nasi and almost completely filling up the entrance to both nasal chambers.

An operation was decided upon and the animal properly prepared.

On January 19th Dr. Geo. H. Berns removed about $3\frac{1}{2}$ inches of the anterior portion of the septum, with the granulating tumors attached to each side.

The parts healed kindly and the patient was discharged from the hospital on February 18th in a fit condition for work.

Technique.—To guard against strangulation tracheotomy was performed while animal was still on his feet by a longitudinal incision through three tracheal rings and the introduction of a self-retaining tracheotomy tube.

He was then placed on the operating table, securely fastened, and the left side of his face thoroughly scrubbed with soap and water and disinfected with sublimate solution. Then the wing of

the left nostril was slit open from in outward about six inches, the false nostril divided in a similar manner, and the hemorrhage, which was very troublesome, gradually controlled by the usual methods.

The septum was perforated with a sharp-pointed bistoury close to the nasal bones, and by a rotary motion of the hand separated from the nasal bone above, from the upper lip in front and from the palatine bones below, and a piece about $3\frac{1}{2}$ inches in length removed. The membranous partition forming the false nostril was removed and the slit in the wing of the nostril closed by interrupted sutures. As the hemorrhage continued, the entire nasal cavity was plugged with cotton and patient allowed to regain his feet. The tracheotomy tube and the tampons in nostrils were left in for two days after which an uneventful recovery took place, the wound in wing of nostril healing by first intention.

The section of the septum has been sent to Dr. Reid Blair for microscopic examination.

OPERATION FOR PUS IN THE GUTTURAL POUCHES.*

By Dr. B. C. TAYLOR, Hillsboro, N. D.

On December 10, H. O. Brokke brought a roan gelding, eight years old, to my infirmary for treatment. He stated that when two years old this horse had distemper and had been discharging from the nose ever since, and had difficulty in breathing and in swallowing his food, which caused him to cough when eating.

The horse was in fair condition, and had been able to do some work. On making an examination, I found quite an enlargement on the right side of the neck and head. I diagnosed it, Pus in the Guttural Pouches. He was breathing quite hard, on the morning of the 11th, when I operated on him. I made an incision through the skin, and then worked with a blunt instrument and the finger through to the cavity. I found the pus in hard, oval pieces, and I had to remove them with a pair of forceps. Some of them were too large to come through the opening, so I had to crush them with the forceps. I did not have to put him on the table to operate, and worked about six hours and removed over a quart of the pus, also flushed out the cavity with water. He was breathing quite naturally, but it was very hard for him to swallow.

* Read at a Meeting of the North Dakota Veterinary Association.

I let him rest until the next day, and then returned to my work with the forceps. I had to work very carefully as I could feel the carotid artery with the finger and was working over the top of it; I worked about four hours and thought I had the cavity about clean, when by some means I wounded the carotid artery and a little hemorrhage started. I watched it for a few seconds and the artery let go full force; I got busy and plugged the opening, but it bled in the pus cavity and filled it so full that it shut his wind off.

I put in a tracheotomy tube which relieved that; after doing this I let him rest until the 13th, then I removed the cotton and washed out the cavity filled with clotted blood. The artery turned itself loose again, but I replugged it again, and made an incision about eight inches down the neck and ligated the carotid artery and dressed my wound, then I removed the cotton and washed out the cavity which contained the clotted blood.

On the morning of the 14th, I again cleansed the cavity and removed the tracheotomy tube, put in two sutures and dressed the wound. I gave him some shorts thinned with water so he could drink it, as it was hard for him to swallow dry grain. December 15 the horse was doing well, eating some hay and drinking gruel. I noticed that the lips on the side which the artery was tied was paralyzed, and the eye was not as bright as the other one. On December 16, horse was feeling good, and when other horses were fed, he pawed and called for his feed. I fed him some ground oats dampened a little, and he commenced to eat his grain. I went out, and on returning in twenty minutes, found him dead. His grain was nearly all eaten, and in the front of the stall and feed box was covered with blood. He had been coughing and bled through the nose.

The post-mortem revealed the rupture of an artery in the lungs.

CRYPTOGAMIC POISONING IN HORSES.

By R. N. McCARROLL, D.V.S., and Dr. R. H. McMULLEN, of Dr. W. E. Howe's Force, B. A. I., Fort Collins, Colo.

The principal agricultural pursuits in the country surrounding Fort Collins, Colo., are the raising of sugar-beets and potatoes. Animals are given access to the fields, and they relish the beet-tops.

This article deals with poisoning which followed the ingestion of mouldy beet-tops, and which occurred during a period following alternately freezing and very mild weather.

Notwithstanding the fact that the horse owners of this vicinity had been given, through the medium of the newspapers, due notice of the dangers attending the feeding of mouldy beet-tops, yet numbers of animals have fallen victims as the result of the introduction of the toxic matters.

On February 27 last the attention of the writers was called to twenty-seven head of horses which had been turned out to a beet field, and which had not been "doing well."

The history of the cases was so complete that there was not the remotest chance for error in diagnosis, and as well, a careful examination of the beet-tops disclosed the mould.

One animal died previous to our arrival, and of the remainder, seventeen head (the capacity of the stable) were placed in a stable, the others being turned into a pasture separate from the beet field, and given the same feed, running water, and treatment as those which were removed to the stable.

The symptoms presented did not vary to a marked degree. All the patients exhibited asthenia, depression and dejection. The eyes were sunken and dull; the conjunctiva yellow. The pulse was weak and from 60 to 70. The temperature was 101° to 104°. All visible mucous membranes were of a yellowish cast. Breathing was somewhat labored. The urine was dark and bloody; diuresis attending several cases. There was primary constipation succeeded by slight diarrhoea. The appetite remained uniformly good throughout. A few of the more severely attacked showed a wobbly gait. No cerebral symptoms presented themselves.

On the evening of February 27 one of the animals manifested paraplegia, and slings were adopted. It died March 4. All of the others recovered.

Treatment consisted chiefly of potassium iodide for the purpose of arresting the development of the bacteria, and encouraging the elimination of the toxins. Creolin in oil was administered as an intestinal antiseptic. Sodium sulphate corrected the bowel irregularities. Where necessary sodium phosphate was resorted to as an hepatic stimulant. Liquor arsenicalis also strychn. sulph. were used in those cases in which the walk was unsteady and weakness extreme.

The lesions presented upon post-mortem were a yellowish cast of the adipose tissues, and slight congestion of the gastro-intestinal mucous membrane. The bowel contents were well digested. The liver, kidneys, and mesenteric glands were congested. The brain was normal. The membranes of the spinal cord were hyperemic.

In all the patients a resuming of normal functions took place gradually, followed by complete recovery. They were under observation until March 13.

FOOT-AND-MOUTH DISEASE.

Photographs taken at Lancaster, Pa., by Dr. S. G. Hendren, Veterinary Inspector B. A. I., during recent outbreak.



FIG. 1.—Foot-and-mouth disease, showing salivation.



Fig. 2.—Foot-and-mouth disease, showing foot lesions.



Fig. 3.—Disinfecting stock yards.

ARMY VETERINARY DEPARTMENT.

DE PROFUNDIS.

There came to my tent as the day was declining
A cavalry vet with his head bending low.
His sight was but dim and his scalp bare and shining,
His footsteps uncertain, his movements were slow.
I asked him to enter, extended a greeting.
Then offered a seat on the edge of the bunk.
He smiled as he mentioned our long ago meeting,
And told me this tale while I sat on my trunk.

“ Since days of my youth I have served in the Army.
I’ve fought with the regiment—fought for the flag.
From historic Brown to the plains round Fort Laramie,
I’ve served long and faithful—no reason to brag.
The war with the South made me handle a lanyard.
O’er trails of the West I have marched in my teens.
At San Juan de Cuba I first met the Spaniard—
I fought him, then served in the far Philippines.”

“ Old comrades, I’ve marched with from ocean to ocean,
Have left me behind—they received their reward,
In old age retirement, or tardy promotion.
I’ll trust mine to God when I’m under the sward.
As vet without rank, without hope, expectation,
For long, drifting years I have served on small pay,
Denied by the Congress of this powerful nation
Whose flag I would die for too gladly to-day.”

At heart I felt grieved—I knew well the condition
Surrounding the vet’s in our Army—still small,
Where men without prospects soon lose their ambition.
It flashed on my mind, They’re not soldiers at all,
But hybrid productions of strange legislation.
Just soldier-civilians on officer’s pay.
He’d finished. I offered my poor consolation,
Then grasped his cold hand ere he drifted away.

CHARLIE CHUMLEY.

ARMY PERSONALS.

Dr. Lester E. Willyoung, 3d Field Artillery, Fort Sill, Okla., has been designated by the War Department to represent the army veterinary service at the 46th annual meeting of the American Veterinary Association at Chicago, September 7-10, 1909.

As a result of the return of the Army of Pacification from Cuba to the United States, the following changes in stations of veterinarians have been ordered: Dr. Gerald E. Griffin, 3d Field Artillery, to Fort Myer, Va., to take charge of the public animals of the Quartermaster Department at St. Asaph, Va., and the horses of Batteries D and E, Fort Myer, Va.; Dr. Fred. B. Gage, 3d Field Artillery, from Fort Myer, Va., to Fort Sam Houston, Texas; Dr. Walter R. Grützman, 15th Cavalry, to Fort Sheridan, Ill., and Dr. Herbert S. Williams, 15th Cavalry, to Fort Myer, Va.

To the Philippine Islands were ordered with their regiments: Dr. William P. Hill, 12th Cavalry; Dr. Robert J. Foster, 15th Cavalry, remaining in the states on a horse-purchasing board in Tennessee and Kentucky; Drs. Walter Fraser and Alfred L. Mason, 13th Cavalry, to Fort McKinley, near Manila, P. I., relieving Dr. C. D. McMurdo, 10th Cavalry, who returns to the United States.

Leave of one month has been granted Dr. Richard H. Power, 4th Field Artillery.

PETRIFIED TURTLE IN STOMACH OF HORSE.—Waterbury, Ct., April 8.—From the stomach of Dina Temple, a valuable racing mare, which had to be operated upon for indigestion, was taken a perfectly petrified water turtle, four inches long and as solid as a rock. The theory is that the turtle was swallowed while the horse was drinking.—(*United Press*).

DOG WALKS HOME, HUNDREDS OF MILES.—Champaign, Ill., April 9.—Spot, a bird dog, has the whole town of Sadorus worshipping him to-day. Last February his master, William Horn, gave him to a friend, who carried him by box car to Baton Rouge, La. This morning the dog staggered into his old home with bleeding feet and a starved appearance. Henry Good, to whom the dog had been given, wrote a few weeks ago that he had disappeared. Horn says he can stay with him the rest of his dog days.—(*New York World*.)

ABSTRACTS FROM EXCHANGES.

ENGLISH REVIEW.

By Prof. A. LIAUTARD, M.D., V.M.

THE RADICAL OPERATION FOR VENTRAL HERNIA [*H. Caulton Reekes, F.R.C.V.S.*].—The author has a special method for the relief of umbilical hernia which he will describe later. For the present, he will only say that it is a modification of the method by ligature, and he refers to it in this case because the present patient had umbilical, and also a large ventral hernia; one of the largest he had ever met with. The horse was three months old, had an umbilical hernia, and back of it, about one inch from it, on the right side, there was a fissure in the abdomen, running backwards and outwards, reaching nearly the region of the flank. Both hands stretched out and placed side by side will give an idea of its dimensions. Ligature, clamping or trussing would have been useless. Only an operation, with all its risks, could be advised. With hesitation, and after three or four weeks, the owner consented to it. The animal was well prepared by a severe diet of several days, a condition which, says the writer, is essential in all cases of abdominal surgery; at least when it is possible. The instruments were carefully prepared and aseptized. Sterilized dressings, sponges, etc., were on hand. The animal was thrown with side lines as in castration. The field of operation shaved and disinfected, the cutaneous hernial sac only was then opened by one incision from end to end along its median line. Hemorrhage was arrested. The peritoneum was opened with a blunt-pointed pair of scissors. The exposed intestines were covered with cloths which had been dipped in a saline solution and wrung out, and while one hand pressed the intestines down over the cloth, with the other hand the cloth was pushed in the abdomen between the walls and its contents. The back end of the cloth only was allowed to lie outside of the body. The suturing was then carried out with stout carbolized silk, including on each side a full inch of the ring, so that when pulled tight the sutures should cause the peritoneal surfaces to

come in close apposition. Beginning at the anterior end of the ring the sutures were inserted, but not pulled and tied, until all the stitches were made. The cloth which had protected the intestines was pulled out only when there remained three or four stitches to secure. Once the ring thoroughly sewn up, the closing of the cutaneous incision was completed by adjusting the edges, applying stout pin sutures tied in a figure 8 manner and a dressing of powdered boric acid. The umbilical hernia was then reduced. The animal made a good recovery without any event worth noticing, except one day where a little fear of possible peritonitis was entertained, which was, however, readily controlled. —(*Journ. of Comp. Pathol. and Therap.*)

CHRONIC ENDOCARDITIS WITH THROMBOSIS IN A MARE [*W. Graham Gillam, M.R.C.V.S.*].—This seven-year-old mare has had a mild attack of strangles. Some time after she had several attacks of colic. Of late, although in excellent condition, her pulse is weak and her mucous membranes indicate anæmia. Two months later she materially has lost flesh, pulse is very feeble and intermittent. No definite heart sound can be distinguished at auscultation. The visible mucous membranes are very pale, she moves her hind legs in a wooden manner. Although she takes tonics and stimulants all the time, her condition gets worse. She has dropsical swellings under the chest and abdomen. The stiffness of her hind legs is more marked. The extremities are cold. Rectal examination reveals the absence of pulsations in the right iliac and very little in the left. The mare is killed. The circulatory apparatus shows lots of lesions. Heart enlarged with the muscular tissue having a boiled aspect. Endocardium is covered with verrucose growths, cauliflowerlike, individual growths varying in size from that of a pea to that of a large walnut. Some are pedunculated. The valves are most affected. There is an aneurism of the size of a duck's egg on the posterior aorta, one inch from the great mesenteric artery. The mesenteric, renal, right and left iliac arteries are more or less plugged with thrombosi. The other organs of the abdominal cavity were generally in good condition.—(*Ibidem.*)

ANESTHESIA WITH A BOAR [*H. Taylor, F.R.C.V.S.*].—A six or eight-months-old Berkshire boar has become ugly and on three occasions had gone for his attendant. To "ring" him was not an easy job and chloroform was necessary. Thrown with some little difficulty, he received with a Carlisle muzzle half

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an ounce of chloroform and then another half an ounce later. In ten minutes he was apparently well under the influence and the operation was begun; but as he squealed again when the snout was pierced preparatory to the insertion of the steel ring, and as he was about coming out of the anesthesia before the rings were secured, two other half ounces were given, a few minutes apart, and when the boar was well under it, the operation was concluded. He quickly got over the effects of the chloroform.—(*Veter. Record.*)

STRANGLES WITH SECONDARY ABSCESS FORMATION IN THE LATERAL VENTRICLES [*P. R. A. Thrale*].—A bay gelding of four years has strangles. The submaxillary and parotid regions are affected. There are abscesses rather slow to come to a point and they are blistered. After three weeks of treatment the animal seems to be on the road to recovery when one morning he shows complications. The horse is down in a semi-comatose condition, with a temperature of 106° F. Pulse is quick and feeble. Respiration hurried. Mucous membranes are injected. He was gotten up on his feet; but in the evening his temperature has dropped to 99° F. Stimulants were prescribed, but death took place after a short time. At the post-mortem the lungs were found emphysematous. The right ventricle of the heart was slightly dilated. On examination of the brain it was found that the right lateral ventricle was the seat of an abscess which contained thick foetid pus.—(*Veter. Record.*)

ŒSOPHAGOTOMY—RECOVERY [*J. N. Marshall, D.Sc.*].—An aged pony was choking. Manipulation of the œsophagus revealed the presence of a foreign body about the middle of the cervical region, but, peculiarly, it was more prominent on the right side of the neck. Oil and external taxis are negative in displacing it. No suitable probang is at hand. But as the case is critical, œsophagotomy is resorted to at once. After aseptic measures were taken, best as they could be, an incision is made directly opposite the foreign body, the œsophagus is open, and a piece of mangold extracted. The mucous membrane was left without being sutured, the muscular coat was closed with interrupted sutures of silkworm gut, the skin with eight stitches of the same material. Healing by first intention took place. The diet consisted of liquid food for five days and then slops until deglutition was normal. Twelve days after the operation the horse was able to work.—(*Veter. Record.*)

ENDOMETRITIS IN THE BITCH TREATED WITH OZONE [*Guy Sutton, M.R.C.V.S.*].—Aged seven years and as far as is known having never been served, this Scotch terrier bitch presents all the general and local symptoms of endometritis, discharge from the vulva, tenderness of the abdomen on pressure, uterine horn thickened, temperature varying between 101.4° F. and 103° F., etc., etc. All kinds of astringents and disinfecting solutions with general tonics have failed and ozone treatment resorted to. The ozone was prepared from pure oxygen, the ozonizer being excited by an electric current of one ampere, pulled through a Rhumkoff coil. A flexible tube terminating in a glass vaginal nozzle was attached to the ozonizer and through this the ozone was injected directly into the horn. Each application lasted from fifteen to twenty minutes. In three weeks fourteen applications were made and the bitch completely recovered. Three months later the discharge had not returned.—(*Veter. Journ.*)

ANTISTREPTOCOCCI SERUM IN THE TREATMENT OF STRANGLES [*J. F. Craig, M.R.C.V.S.*].—An aged gray mare had received a wound on the jaw. She was then in company with a three-year-old filly that had strangles. The wound of the old mare became complicated with abscesses. From that time she had them on the cheek, in the intermaxillary space and on the parotid. These were treated. Others came near the lips. Streptococci were found in the pus. 100 c.c. of strangles serum "Hoechst" were injected subcutaneously. Decided improvement followed and all the abscesses healed more or less rapidly. Some few days later new abscesses formed in the parotid; then another in front of the junction of the left submaxillary and jugular veins and so on until all passed away and the animal finally recovered, the affection having lasted from the beginning of September to that of November. Some improvements had followed the injection of serum, but did not entirely prevent the formation of other abscesses, although a period of forty-nine days elapsed between the injection of serum and the pointing of the abscesses.—(*Veter. Journ.*)

DISLOCATION OF THE EYEBALL IN A DOG [*By the same*].—While playing with a large collie dog, a Pomeranian little fellow, got a blow on the left eye which was pulled out of its socket. It protrudes in front of the eyelids and the conjunctiva is swollen and congested. The cornea is dim. Treatment: Cocaine to produce local anesthesia. Lukewarm water solution of boracic

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acid to clean the eye and conjunctiva; a little castor oil to lubricate, small incision on the outside canthi to enlarge the palpebral fissure, return of the eye in position, silver wire suture of the incision, bandage over the eye to protect it and collyriums of boracic acid and belladonna in water, applied twice a day. Complete recovery.—(*Ibidem.*)

SPINAL FRACTURE WITHOUT DISPLACEMENT [E. A. Ryan, M.R.C.V.S.].—Big, lumbering, sixteen hands high, untrained, half-bred gelding, aged three years old, has to be fired. He is very wild. He has to be cast, although having a rather roach back, inspires some fear. However, he is thrown, drops easily, but struggles considerably during the whole operation. When this is finished, he gets up without any trouble. He is taken to a field where, turned loose, he gallops and runs with the other horses. Seen a few hours after, he is still galloping round the field. The next morning he is reported as being stiff. Yet he moves quite well when going in straight line, but when turning round he has lost power of co-ordination behind. He is placed in a smaller field where he will be kept quieter. The next day he is down and unable to get up. Rectum and bladder are paralyzed. His hind limbs do not respond to the pricks of a pin. Rectal examination negative. He is destroyed. Clot of blood is found on each side of the spinal column. The psoas muscles are torn from their insertion. The body of the last dorsal vertebrae is fractured but there is no displacement. In the spinal canal there is a clot of blood pressing upon the spinal cord.—(*Veter. Journ.*)

UMBILICAL HERNIA IN A NEW-BORN CALF WITH RUPTURE OF THE SKIN—COVERING THE HERNIA [E. A. Ryan, M.R.C.V.S.].—This calf was delivered by the owner of the cow and when seen by the writer was lying on the bare floor with all the small intestines out, there being an umbilical hernia with the skin ruptured over it for about three inches in length. Although considered a hopeless case, the owner wishes it treated. The bowels were washed in warm solution as well as possible and returned in the abdomen. The peritoneum was picked up, twisted, and a piece of silk tied round and as close up as it could be. What remained below the skin was cut off. The wound was closed with continuous sutures, including skin and muscles. The next morning the calf was comfortable and looking for his food. In a week he was quite well. Lysol and boracic acid were used to dress the wound.—(*Ibidem.*)

HERNIA OF THE OMASUM [*James Chalmers*].—After some days of illness this animal died and the post-mortem revealed a rupture of the diaphragm in the middle and the omasum in the thoracic cavity. It was attached to the posterior lobe of the right lung which was pneumonic and gangrenous. After cutting the adhesions a piece of wire was found protruding and the contents of the omasum were also found, consisting of two buttons, one small staple, one screw nail, five wire nails, half of a lead washer, two sharp French nails, two small sharp pieces of thin metal and many pieces of bones. This rupture was evidently of old standing.—(*Veter. News.*)

FRENCH REVIEW.

By Prof. A. LIAUTARD, M.D., V.M.

OCCLUSION AND PERFORATION OF THE INTESTINE IN A DOG [*Henry Broc*].—Three-months-old dog, ordinarily very lively, has suddenly become dull and quiet, refusing his food and throwing up all that he is made to take by force. Is it the incubation of distemper? Placed in observation, he dies during the night. At the post-mortem the abdomen is found full with a yellow exudate containing numerous blackish small pieces of coal. The intestinal convolutions are tympanitic and rather congested. Towards the termination of the small intestine there is a transval laceration with necrotic irregular borders. In the intestines and in the stomach there were found balls made of rags and also pieces of straw and hairs. The colon contained pieces of coal also. All the other organs were healthy. Septic peritonitis, due to intestinal perforation, was the cause of death.—(*Journ. de Zootech.*)

ACUTE ROARING CURED BY TRACTIONS UPON THE TONGUE [*Mr. Nain, Army Veterinarian*].—A mare, aged sixteen, is suddenly taken with short and loud breathing, which is heard several meters away. The nostrils are much dilated, the flanks are hurried; heart beatings are fast. The roaring comes from the throat and only during inspiration. Now and then the animal has spells of coughing, after which she is a little relieved. The throat is

very painful and exploration of the mouth quite difficult as the animal fights against it. The tongue is pale and as it is pulled out of the mouth the roaring diminishes. As soon as it is allowed to go back in the mouth the noise returns. Several tractions were then repeatedly applied and after a while all fears of danger had subsided. There had been an oedema of the glottis which by the tractions upon the tongue had easily been resorbed. This method of treatment is to be tried before tracheotomy is resorted to.—(*Rec. d'hyg. et medec. veter. militaire and Journ. de Zootech.*)

TUBERCULOSIS IN A PANTHER [*Bergeon, Sanitary Insp.*].—This female animal has been in captivity for sixteen years and has lost flesh considerably. Her appetite is capricious. Her coat is staring, the glances of the eyes are dull, the flank retracted, respiration seemed labored and she has frequent spells of coughing. Finally she died and here is the result of the autopsy: Great emaciation. Liver has a characteristic color of dead leaf, the hepatic tissue is hard and sclerosed here and there. The pleura are thick and in places attached to the lungs and to the thoracic walls, there is abundant pleuritic effusion. The lungs show lesions of pneumonia and in the right one, yellowish granulations of various sizes. In the parenchyma of the organ, similar ones are found, containing caseo-cretaceous substance. The left lung has a large cavern containing yellow thick pus and forming a typical lesion. The bronchial and mediastinal glands are hypertrophied. The bacilli of Koch were found at the microscopical examination of the lesions and in the pathological products. Inoculations and cultures confirmed the diagnosis—(*Rev. Veterin.*)

FREQUENCY OF TUBERCULOSIS AMONG BUFFALOS AND THE ACTION OF TUBERCULIN [*Dr. Kutchukoff, Sofia*].—Buffalos are of importance in the economical life of Balkans countries, in Turkey and other Asiatic places, where they are used for hard work in towns and in the country to plow. The milk of the females, the cream and the butter are used extensively. Tuberculosis is rather frequent among buffalos used in towns and also in milch animals. At the abattoir of Sofia the disease is found more frequently in males than in females. Tuberculosis is rare in milch buffalos, even with those that have been for a long time in barns with tuberculous cows. In one late occasion the author tested with tuberculin twenty milch buffalos and twenty-four cows which were in the same barn. Forty per cent. of the cows reacted and only one among the buffalos. The action of tuber-

culin in buffalos is very marked. The temperature rises to 41.2° C. The animal eats very little, remains lying down with the head bent under him. The respiration is accelerated. Chills are frequent. Pulmonary lesions are found at post-mortem.—(*Rev. Génér. de Médec. Vétér.*)

OBSTETRICAL PARALYSIS OF THE ANTERIOR TIBIAL MUSCLES IN A NEW BORN CALF [Mr. Bedel].—A two-days-old calf has great difficulty to move. To extract him from his mother it required a great deal of pulling. He stands normally, but when made to walk he carries his hind legs well forward, and as they come to the rest on the ground the fetlock bends suddenly and by a sudden jerk the angle of the hock is closed. The anterior face of the tibial region looks convex and the apex of the oscalcis touches the tibia. This motion is of short duration and the animal resumes its normal standing. These manifestations were observed in both legs. A diagnosis was made of paresis of the flexor metatarsi muscle and also of the extensor of the phalanges, due to the overstretching of the nerves of the region. No treatment was ordered. The symptoms subsided gradually and recovery was complete in two weeks. The author records another case which presented symptoms somewhat similar and which recovered in eight days.—(*Prog. Veter.*)

CONGENITAL FEMORO-TIBIAL SYNOVIAL ENLARGEMENT IN A COLT [By the same].—Two days old, this colt is quite lame on the left hind leg. He has a dilatation of the femoro-tibial synovial, which had been observed at birth. A severe blister is applied; but without result. After some little time fine needle cauterization was resorted to and a fine conical iron, heated white, was thrust in the lower part of the swelling, making a deep puncture, through which all the synovia escaped. When the swelling had almost entirely subsided, and the flow of synovia had about stopped, a stiff blister was applied. After a few weeks the little fellow was entirely well. The case was recorded because such an accident is rare in the new-born animal, and again on account of the fact that it is in general rebellious to all kinds of treatment.—(*Ibidem.*)

OLD AND REBELLIOUS SINUSITIS TREATED WITH SUCCESSFULLY CONTINUED IRRIGATIONS [M.M. Fayet and Moreau, Army Veterins.].—This mare has had a bad abundant discharge from the right nostril, for which she has been treated for a year. She has been malleined with negative results. At times the run-

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ning has subsided and the animal seemed to have recovered. But after a short time the trouble returned. Trephined on the inferior maxillary and frontal sinuses, these cavities are cleaned of a quantity of foetid pus. An opening is made between the sinuses and injections of permanganate of potash prescribed. But as after a few days the communication is closed between the sinuses these are filling up again and a drain has to be introduced and left in place so as to allow constant washing of the two cavities. The drainage was established in such a manner that the flow of water was continuous and the pus washed out as quick as it was formed. The running of the water was kept up all day for two days and as an improvement was manifest, it was used only every two hours for fifteen or twenty minutes. After eighteen days of treatment, the animal was entirely well and has been ever since. —(*Le Répertoire.*)

FOUR OPERATIONS OF BOCCAR IN A MONTH [M. David. *Army Veter.*].—The operation of BOCCAR is the tenotomy of the lateral extensor of the phalanges for the relief of springhalt. Patronized by some, it has with others given imperfect and unsatisfactory results. The author gives the account of four cases which were operated by him and were accompanied by recoveries. In one mare the improvement took place only slightly, immediately after operation, but was entirely cured in six days. A horse remained on treatment only one week. Another mare only fifteen days. A thoroughbred took somewhat longer. In none of them did the springhalt subside immediately; but gradually passed off, to disappear after a lapse of time varying between fifteen days and three weeks. The operation is very simple and scarcely imposes any loss of work, cicatrization occurring always in a few days.—(*Rev Gener. de Medec. Veter.*)

UNILATERAL GLUTEAL ATROPHY, PROBABLY DUE TO EMBOLISM [M. L. Magnin, *Army Veter.*].—Twelve-year-old horse is suffering with incomplete paralysis of the anus, rectum and tail. The bladder functionates normally. While in camp, this infirmity is not a very great inconvenience, but when in march or in manœuvres the rectal paresia is increased, the feces collect in the last portion of the digestive canal, the horse has colic, which often is immediately relieved by the unpleasant back raking. The disease with this horse is of long standing and seems to be the result of a fall which was accompanied with fracture of the sacrum. One day the horse was taken with serious thrombo-

embolic colic, and after recovery, in about one week he had lost considerable flesh. Some two weeks after this a very marked atrophy of the gluteal region of the left side took place and so rapidly increased that the horse was ultimately sold almost for nothing. The author believes that this atrophy was due to arterial embolism.—(*Rev. Gener. de Mede. Veter.*)

GERMAN REVIEW.

By J. P. O'LEARY, V.M.D., Bureau of Animal Industry, Buffalo, N. Y.

RECENT STUDIES CONCERNING ETHER AND CHLOROFORM [*M. Nicloux*].—The author recently made known to the Paris Academy of Sciences through an extensive treatise, a number of details hitherto unknown, also the results of minute investigations and studies concerning the history and mechanism of anesthesia by means of ether and chloroform in animals. He summarizes as follows: When insensibility is produced by ether, larger quantities of it are found in the circulating blood than in the case of chloroform narcosis. Relative experiments were undertaken with animals of the same species, and as usual with dogs. In determining the quantities of both agents in the blood it was estimated at the beginning of narcosis, at its height and shortly before death. The ether was much more rapidly eliminated than the chloroform. Although chloroform appears in the urine as chloride a decomposition in the blood during narcosis does not take place. The ether is distributed equally throughout the blood plasma and the blood corpuscles, whilst chloroform has, on the contrary, a powerful affinity for the latter, the blood corpuscles containing seven to eight times more than the plasma. In etherization the ether is equally distributed throughout the brain, as well as in the medulla oblongata. In chloroform narcosis the medulla on the contrary contains a larger quantity of chloroform than the brain.—(*Deutsche Fier Wochenschift*, No. 29, 1908.)

ARTICULAR WOUNDS [*District Vet. M. Notz, Freising*].—The author describes the methods which he employs in the treatment of joint wounds, such as enlarging the orifice of the wound; thorough cleansing and disinfection of same with the usual dis-

infecting remedies; the removal of necrotic tissue. Notz recommends in particular sodium bicarbonate as a dusting powder on the wound. He applies a mixture of 100 parts of sodium bicarbonate and 1 part of sodoform with good results. He further explains the action of the sodium salt as follows: This agent when in contact with the wound secretions gradually dissolves. It exercises a destructive influence on the pyogenic organisms (probably through solution). It also prevents the destruction of tissue. Consequently the closure of the wound is brought about more readily. Notz relates the history of a horse suffering from a severe joint wound which he had cured with sodium bicarbonate.—(*Deutsche Tier Wochenschrift*, No. 29, 1908.)

CONCERNING MODERN LOCAL ANASTHESIA, WITH SPECIAL REFERENCE TO ANASTHESIN AND NOVOCAIN-SUPRURENIN [*Chief Vet. Dr. Goldbeck, Schwedt*].—The author discusses the merits of the preparations of cocaine and the orthoform groups. Anasthesin belongs to the latter group. In cases of hyperesthesia, anasthesin is an excellent remedy. In a case of extreme sensibility of the auditory apparatus, in otitis extema in a dog, Goldbeck applied the following solution: Anasthesin 3.0 grms. Spt. Rect. and Ag. Destillata aa 50.0 grams. A small quantity was poured into the ear twice daily. To allay irritation anasthesin may be prescribed with benefit in conjunction with Pulp. Salicylci cum Talco, 1 to 10 parts, or in the same proportion with Pasta Salicylica Lassar. Stovin, Alypin, and Novakain belong to the cocaine group. These preparations are preferable to cocaine, because they are less poisonous. Novakain is highly esteemed as its action is not impaired when combined with suprarenin. Braun and Bier have established the fact that the vasoconstrictor suprarenin increases the action of the local anesthetics and is not rendered inert by them. Unfortunately the Novo-Suprarinin solution is not permanent. Goldbeck employs a 0.5 per cent. solution of Novokain-Suprarenin for diagnostic purposes, infiltration of the nerves. As a local anesthetic in the region of operations he uses the following: Novokain 0.25, Physiological salt solution 100.0, and 5 drops of a 1 to 1,000 Suprarenin solution. In other cases Novokain can be applied in the proportion 1 to 50 and even 1½ to 40. This solution may be painted on the wound or injected. The effect lasts at least half an hour. Novokain is not as poisonous as cocaine, neither does it produce symptoms of excitement, nor has any ill effects been observed at the seat of operation which might retard healing of the wound.—(*Deutsche Tierarzt, Wochenschrift*, 1907, No. 21.)

CONCERNING CELL POISONS AND CELL DISEASES [*Prof. Zschokke, Zürich*].—Scientists to-day are investigating the elementary processes of life in the unicellular being. Zschokke, in his paper read before the Vet. Association, discussed the question of the nucleus (the seat and termination of life), the protoplasm (the workshop of the nucleus), and the cell membrane. He then referred to cell poisons, especially cell changes, changes in form, structure and chemical reaction, changes of function, changes of the protoplasm resulting in cellular diseases (cloudy swelling, hyaline, mucous, hydropic degenerations). The death of the nucleus (disintegration, dissolution). By means of staining and reagents it is possible to identify cellular diseases, particularly the functional disturbances which serve ample proof as to cellular diseases. These functional disturbances consist of a diminution (enervation) or an increase (stimulation), or in a qualitative change in the cell activity. A lowering of the cell function is observed most strikingly in freshly infected feverish animals, in view of which numerous glands perform their functions imperfectly or not at all. For instance, the mammary glands dry up completely, the muzzle becomes dry, the mechanical power of the muscles is decreased—cardiac weakness. The increased activity of the cell is due partly through direct influence on the cell body by toxines, partly indirect by nervous irritability. For example, the enormous secretion of the intestinal glands in cholera and the night sweats of the tubercular. Most striking is the increased function of the nervous elements (pain, photophobia, pruritis). One of the most important functional factors is the promotion of assimilation, the growth and multiplication of cells (local cell proliferation in tuberculosis, glanders and so on in the proximity of the nodules). The qualitative changed cellular activity is prominently set forth, in the formation of anti-bodies. This brief sketch shows, as Virchow taught, that disease and curative processes depend finally on the body cells.—(*Osterr. Monatsschrift für Tierärkunde*, S. I., 1908.)

THE TRANSPORTATION OF LIVING SEA FISH.—At the Cuxhaven fishery successful experiments were conducted in order to make possible the transportation of living sea fish to the large cities of the interior. The experiments were undertaken with the co-operation of the fisheries inspectors and the fish transporting firms, Kauman Nachfl. A. G. Berlin. Specially constructed wagons were employed for the purpose. Already loads of living fish (fresh water fish) were shipped from Roumania and Mar-

sailles to Berlin. The time occupied in transportation being from 90 to 100 hours. The fish arrived in excellent condition. After several tests, live fish such as plaice, turbot and sole were placed in a wagon filled with salt water, which contained 3½ per cent. salt. After a journey occupying 36 hours the loss entailed was a few per cent. of plaice. The larger portion of the plaice and all the other fish arrived in a perfectly healthy condition. The success of this experiment is of great importance to the German sea fishery.—(*Berliner Tier Wochenschrift*, No 32, 1908.)

COLIC [*Chief Vet. Heiman*].—In the case of a horse which had died showing symptoms of colic, Heiman found on post-mortem that peritonitis was the cause of death, produced by ascarides. At the end of the ileum a large nodular mass about the size of a man's fist could be felt. This was found to be a mass of ascarides and aliment. From this dilated portion of intestine small round holes lead to a cavity of about 9 c.m. in diameter, the latter being enclosed in the mesenteric folds. The pocket-striped cavity was filled with ascarides, pus and intestinal contents. At one point the wall of the pocket was rent.—(*Zeitschrift fur Veterinärkunde*, S., 321, 1908.)

VETERINARY PROGRESS IN THE PHILIPPINES.—It is interesting to know that there exists in the Philippine Islands a well organized Veterinary Medical Association, made up of American veterinarians who are in that part of the world in different branches of our government service. The greater number are in the Bureau of Agriculture, some are in the Army, some in the Quartermaster's Department, one is in the employ of the city of Manila, and still another in private practice, making thirty-six veterinarians in all. The association has been organized four years, and meets yearly in a five days' session. The last meeting was held during the presence of the fleet in Manila. The present officers of the association are: President, F. C. Gearhart, D.V.M. (Acting Chief Veterinarian, Bureau of Agriculture); Vice-President, L. M. Pick, D.V.M. (Veterinarian, 9th Cavalry); Vice-President, C. M. Richards, V. S. (practitioner); Secretary, Chas. G. Thomson, D.V.M. (in charge serum laboratory, Bureau of Agriculture).

CORRESPONDENCE.

NINTH INTERNATIONAL VETERINARY CONGRESS —LATEST GENERAL INDICATIONS.

SUBJECTS TO BE TREATED AND REPORTERS.

A. GENERAL MEETINGS.

1. *Governmental efforts against swine-plague and hogcholera (swine-fever) based upon the recent researches regarding their etiology, vaccination, serovaccination, etc.*

Reporters—M. Dorset, M.D., Bureau of Animal Industry at Washington (United States of North America); Dr. F. Hutyra, Hofrat, rector and professor of the Superior Veterinary School at Budapest (Hungary); Dr. R. Ostertag, Geheimer Regierungsrat, director in the Reichsgesundheitsamt at Berlin (Germany); S. Stockman, principal veterinary surgeon at London (England).

2. *The protection of the practice of veterinary medicine.*

Reporters—P. Cagny, veterinary surgeon at Senlis (Oise, France); W. Hunting, at Chelsea, London (England); W. Kotlár, chief district veterinary surgeon at Melnik (Bohemia); M. Preusse, Veterinärrat, departmental veterinary surgeon at Dantzig (Germany).

3. *The rôle of the veterinary surgeon as expert in zootechnical questions.*

Reporters—Gustav Elsner, district veterinary surgeon at Podersam (Bohemia); C. Matthiesen, Veterinärrat, departmental veterinary surgeon at Hanover (Germany); Lavalard, veterinary surgeon, President of the Central Society of Veterinary Medicine at Paris (France); P. P. van der Poel, government veterinary surgeon at Bandoeng, Java (Netherlands East Indies).

4. *The conditions necessary to obtain the doctorate in veterinary science.*

Reporters—Dr. F. Hutyra, Hofrat, professor and rector of the Superior Veterinary School at Budapest (Hungary); E.

Leclainche, professor of the National Veterinary School at Toulouse (France); Dr. R. Schmaltz, professor and rector of the Superior Veterinary School at Berlin (Germany).

5. *The sanitary control of milk and the obligatory systematic inspection of meat.*

Reporters—Dr. R. Edelmann, Obermedizinalrat, professor of the Superior Veterinary School at Dresden (Germany); Dr. C. Happich, professor of the Veterinary Institute at Dorpat (Russia); Dr. H. Martel, chief of the veterinary sanitary service at Paris (France); Dr. A. D. Melvin, chief of the Bureau of Animal Industry at Washington (United States of North America); Porcher, professor of the National Veterinary School at Lyon (France); Dr. H. Rievel, professor of the Superior Veterinary School at Hanover (Germany); A. M. Trotter, Morestreet abattoir at Glasgow (England).

6. *The methods employed in treating the carcases and meat, with the object of rendering them harmless*

Reporters—Dr. A. D. Melvin, chief of the Bureau of Animal Industry at Washington (United States of North America); Dr. A. Moreau, retired sanitary veterinary surgeon at Paris (France); F. von Puntigam, municipal veterinary inspector at Brünn (Moravia); Dr. Zwick, Regierungsrat and professor in the Reichsgesundheitsamt at Berlin (Germany).

7. *The prophylaxis and pathology of protozoan diseases (piroplasmoses, trypanosomoses) with demonstration of the specific parasites and of the transmitting animals (ticks, mosquitoes, etc., etc.).*

Reporters—E. Dschunkowsky and J. Luhs, station for the inoculations against cattle plague at Surnabad (Transcaucasia, Russia); Dr. P. Knuth, professor of the Superior Veterinary School at Berlin (Germany); J. Lignières, professor, director of the Bacteriological Institute at Buenos Ayres (Argentine); E. Marotel, chief assistant of parasitology of the National Veterinary School at Lyon (France); C. S. Motas, professor of the Superior Veterinary School at Bucharest (Roumania); C. A. Penning, inspector of the civil veterinary service of the Netherlands East Indies at Buitenzorg (Java); Piot-Bey, director of the veterinary service of the administration of the domains of Egypt at Cairo (Egypt); Dr. A. Theiler, government veterinary bacteriologist at Pretoria (Transvaal).

8. The governmental control of sera and bacterial products and their preparation by government.

Reporters—Dr. Berghaus, director in the institute of experimental therapy at Frankfort-on-Main (Germany); E. Leclainche, professor of the National Veterinary School at Toulouse (France); Dr. G. Leurink, professor of the Veterinary School at Buitenzorg (Netherlands East Indies); Dr. H. E. Reeser, bacteriologist of the sero-therapeutical institute of the state at Rotterdam (Netherlands); Dr. Joseph Schnürer, professor of the Superior Veterinary School at Vienna (Austria); Dr. C. Titze, Regierungsrat in the Reichsgesundheitsamt at Berlin (Germany).

9. Avian tuberculosis in its relations to tuberculosis in mammals.

Reporters—Dr. S. Arloing, professor of the University, director of the National Veterinary School at Lyon (France); Oluf Bang, veterinary surgeon, assistant of the Superior Veterinary School at Copenhagen (Denmark); J. Mohler, V.M.D., Bureau of Animal Industry at Washington (United States of North America); Mrs. Dr. Lydia Rabinowitsch, at Berlin (Germany).

10. The sterility of cows and its dependence upon the infectious diseases of the genital organs.

Reporters—Albrechtsen, veterinary surgeon at Aakirkeby (Denmark); C. Cuny, chief assistant of bovine pathology of the National Veterinary School at Lyon (France); Dr. E. Hess, professor of the University at Berne (Switzerland).

11. Governmental efforts against tuberculosis, with regard to the ways of infection in this disease.

Reporters—Dr. B. Bang, professor of the Superior Veterinary School at Copenhagen (Denmark); U. Dewar, professor of the Royal Veterinary College at Edinburgh (Scotland); G. Moussu, professor of the National Veterinary School at Alfort (France); Dr. R. Ostertag, Geheimer Regierungsrat, professor, director in the Reichsgesundheitsamt at Berlin (Germany); Dr. J. Poels, director of the sero-therapeutical institute of the state at Rotterdam (Netherlands).

12. *Construction and interior of stables in relation to the prophylaxis of diseases of animals, especially tuberculosis, and also to the hygiene of milk.*

Reporters—Dr. Dammann, Geheimer Regierungs- und Medizinalrat, director of the Superior Veterinary School at Hanover (Germany); H. M. Kroon, professor of the State Veterinary School at Utrecht (Netherlands); J. S. Lloyd, chief veterinary inspector, president of the association of veterinary officers of health at Sheffield (England); J. Monsarrat, chief departmental veterinary surgeon, member of the departmental board of hygiene at Lille (France), and L. Revière, sanitary veterinary surgeon, member of the second sanitary committee of the district at Lille (France).

B. MEETINGS OF THE SECTIONS.

I. First Section.

1. *Inspection of fish, game, poultry, crustaceous animals and molluscs, and of other animal foods, not included in the question 5 of the general meetings, in relation to the hygiene of man.*

Reporters—K. Borchmann, chief of laboratory in the hygienic institute of the Superior Veterinary School at Berlin (Germany); E. Césari, sanitary veterinary surgeon at Paris (France); Oskar Oppenheim, municipal veterinary surgeon at Lundenburg (Austria); a reporter to be named by Dr. A. D. Melvin, chief of the Bureau of Animal Industry at Washington (United States of North America).

2. *Insurance of stock in relation to obligatory meat inspection.*

Reporters—Dr. R. Edelmann, Obermedizinalrat, professor of the Superior Veterinary School at Dresden (Germany); A. Pirocchi, professor of the Royal School of Agriculture at Milan (Italy); Karl Pitha, chief veterinary surgeon of the Moravian insurance of cattle at Brünn (Moravia); F. Hendrickx, professor of the State Veterinary School at Cureghem-Brussels (Belgium).

3. *Disinfection of the vehicles of transport and animal products in international traffic.*

Reporters—A. Conte, departmental veterinary surgeon at Montpellier (Hérault, France); Max Führer, veterinary inspec-

tor, president of the veterinary association at Vienna (Austria); Dr. A. A. Overbeek, district veterinary surgeon at Groningen (Netherlands).

4. *Serotherapy, seroprophylaxis and vaccination of foot-and-mouth disease and their value from the point of view of legal sanitary police.*

Reporters—E. Leclainche, professor of the National Veterinary School at Toulouse (France); Dr. F. Löffler, Geheimer Medizinalrat, professor of the University at Grieswald (Germany); Dr. Lourens, under-director of the sero-therapeutical institute of the state at Rotterdam (Netherlands); Dr. E. Perroneito, professor of the University and of the Superior Veterinary School at Turin (Italy); H. Vallée, professor of the National Veterinary School at Alfort (France).

II. Second Section.

1. *The diagnosis of infectious diseases by means of the recently discovered reactions of immunity (except the subcutaneous injection of tuberculin and mallein).*

Reporters—Dr. L. de Blieck, director of the bacteriological laboratory at Buitenzorg, Java (Netherlands East Indies); J. Lignières, professor, director of the bacteriological institute at Buenos Ayres (Argentine); L. Panisset, professor of the National Veterinary School at Lyon (France); Dr. J. Schnürer, professor of the Superior Veterinary School at Vienna (Austria); A. Wladimiroff, professor, member of the Imperial institute of experimental medicine at St. Petersburg (Russia).

N. B.—Dr. Schütz, Geheimer Regierungsrat, professor of the Superior Veterinary School at Berlin, will present a report, prepared by one of his disciples.

2. *Etiology and pathogeny of malignant tumors, especially of cancer.*

Reporters—Apolant, professor, member of the institute of experimental therapy at Frankfort-on-Main (Germany); Dr. Bashford, director of the laboratory of the Imperial Cancer Research Fund at London (England); Dr. Borrel, chief of laboratory at the Pasteur Institute, Paris (France); Dr. A. Jaeger, veterinary surgeon at Frankfort-on-Main (Germany); C. O. Jensen, professor of the Superior Veterinary School at Copenhagen (Denmark); Dr. von Wasielewsky, extraordinary professor, chief physician and director of the laboratory of parasitology of the institute for the study of cancer at Heidelberg (Germany).

3. Vaccination against tuberculosis.

Reporters—Dr. A. Eber, professor of the University at Leipzig (Germany); Dr. T. Heymans, professor of the University of Ghent (Belgium); Dr. M. Klimmer, professor of the Superior Veterinary School at Dresden (Germany); H. Vallée, professor of the National Veterinary School at Alfort (France).

N. B.—Dr. Schütz, Geheimer Regierungsrat, professor of the Superior Veterinary School at Berlin, will present a report, prepared by one of his disciples.

4. Anatomo- and histo-pathological diagnosis of rabies.

Reporters—Dr. L. Frothingham, professor of the Harvard Medical School at Boston (United States of North America); Dr. van Gehuchten, professor of the University at Louvain, and Dr. C. Nélis, at Bruges (Belgium); Dr. Rudolf Hartl, extraordinary professor of the Superior Veterinary School at Vienna (Austria); Dr. St. von Rátz, professor of the Superior Veterinary School at Budapest (Hungary); M. Grabowski, professor of the Superior Veterinary School at Lemberg (Austria).

N. B.—If the proceedings of the section allow it a communication will be done by Mr. Koneff, professor of the Veterinary Institute of Kharkoff (Russia), on "Experiments of Vaccination Against Glanders."

III. Third Section.

1. Specific chronic enteritis of cattle.

Reporters—Dr. B. Bang, professor of the Superior Veterinary School at Copenhagen (Denmark); J. Bongert, director of the bacteriological laboratory of the municipal abattoir at Berlin (Germany); Liénaux, professor, and van den Eeckhout, assistant of the State Veterinary School at Cureghem-Brussels (Belgium); Dr. H. Markus, professor of the State Veterinary School at Utrecht (Netherlands); Dr. Miessner, director of the laboratory of veterinary hygiene at Bromberg (Germany); Dr. W. Stuurman, director of the municipal abattoir of Alkmaar (Netherlands).

2. Infectious pleuro-pneumonia of horses.

Reporters—C. Cadéac, professor of the National Veterinary School at Lyon (France); H. Dahlström, professor of the Superior Veterinary School at Stockholm (Sweden); J. Lignières, professor, director of the bacteriological institute at Buenos Ayres (Argentine); Dr. Malkmus, professor of the Superior

Veterinary School at Hanover (Germany); Dr. Szpilmann, professor and rector of the Superior Veterinary School at Lemberg (Austria); M. G. Tartakowsky, director of the bacteriological laboratory at the Ministry of Agriculture at St. Petersburg (Russia).

N. B.—Dr. Schütz, Geheimer Regierungsrat, professor of the Superior Veterinary School at Berlin, will present a report, prepared by one of his disciples.

Mr. Koneff, professor of the Veterinary Institute of Kharkoff (Russia), will present a report on "Bacillus Pleuro-pneumoniae Contagiosæ Equorum."

3. *Hemostasis in the modern methods of castration.*

Reporters—A. Degive, professor, emeritus director of the State Veterinary School at Cureghem-Brussels (Belgium); H. Frick, professor of the Superior Veterinary School at Hanover (Germany); A. Labat, professor, director of the National Veterinary School at Toulouse (France); J. Macqueen, professor of the Royal Veterinary College at London (England); Dr. B. Plósz, professor of the Superior Veterinary School at Budapest (Hungary); J. Vennerholm, professor of the Superior Veterinary School at Stockholm (Sweden); B. Vrijburg, government veterinary surgeon at Buitenzorg (Netherlands East Indies).

4. *Pathology and therapeutics of streptococcic infections in the domestic animals.*

Reporters—A. Labat, professor, director of the National Veterinary School at Toulouse (France); J. Lignières, professor, director of the bacteriological institute at Buenos Ayres (Argentine); Dr. E. Pison, professor of the Veterinary School at Leon (Spain); Dr. R. Turro, director of the bacteriological laboratory at Barcelone (Espagne).

5. *Recent investigations (of the two last years) concerning chronic deforming arthritis of horses.*

Reporters—Dr. R. Eberlein, professor of the Superior Veterinary School at Berlin (Germany); J. Jacoulet, principal veterinary surgeon of the first class at Paris (France), and G. Joly, director of the veterinary service and teaching of the Cavalry School at Saumur (France).

IV. Fourth Section.

1. *Physiology of milk-secretion; relation between the external form of cows and the production of milk.*

Reporters—Dr. M. C. Dekhuyzen, professor of the State Veterinary School at Utrecht (Netherlands); Godbille, veterinary surgeon of the sanitary veterinary service of the Seine at Paris (France); Dr. Kronacher, professor of the Academy of Agriculture at Weihenstephan (Germany).

2. *Influence of the various foods upon the quality of the products (meat, milk). Application of Kellner's principle in the feeding of animals from the point of view of the production of milk, meat and strength.*

Reporters—Dr. O. Kellner, Geheimrat, professor, director of the experimental station of Möckern-Leipsic (Germany); F. Maignon, chief assistant of physiology of the National Veterinary School at Lyon (France); Dr. St. Weiser, royal principal chemist at Budapest (Hungary).

3. *Prevention of the prejudicial effects of the forced breeding for special purposes.*

Reporters—Dr. Dammann, Geheimer Regierungs- und Medizinalrat, director of the Superior Veterinary School at Hanover (Germany); Porcherel, professor of the National Veterinary School at Lyon (France); Dr. Joseph Taufer, inspector of the studs at Brünn (Moravia).

4. *Teaching of zootechny.*

Reporters—Dr. Albrecht, Hofrat, director of the Superior Veterinary School at Munich (Germany); P. Dechambre, professor of the National Veterinary School at Alfort and of the School of Agriculture at Grignon (France); A. W. Heidema, veterinary surgeon at Groningen (Netherlands); Joseph Růdovský, Landesveterinärreferent at Brünn (Moravia).

N. B.—If the business of the section allow it, discussion will take place upon a report of Dr. A. Pirocchi, professor of the Royal Superior School of Agriculture at Milan (Italy), entitled "Skimmed Milk as Food to Calves."

V. Fifth Section.

1. *Hygiene in the maritime transport of cattle.*

Reporters—L. J. Hoogkamer, major, retired military surgeon at The Hague (Netherlands); P. P. van der Poel, government veterinary surgeon at Bandoeng, Java (Netherlands East

Indies); Rickmann, kaiserlicher Veterinärrat, veterinary surgeon at Höchst-on-Main (Germany); O. Stourbe, municipal veterinary surgeon at Marseille (France).

2. Sanitary police in colonies.

Reporters—W. van der Burg, captain, veterinary surgeon in the army of Netherlands East Indies at The Hague (Netherlands); Carougeau, chief of the veterinary service at Tananarive (Madagascar); J. A. Gilruth, chief veterinary surgeon, professor of the University at Melbourne (Australia); C. A. Penning, inspector of the civil veterinary service of the Netherlands East Indies at Buitenzorg, Java (Netherlands East Indies); Rickmann, kaiserlicher Veterinärrat, veterinary surgeon at Höchst-on-Main (Germany).

3. Teaching and laboratories for research in tropical diseases.

Reporters—Dr. L. de Blieck, director of the bacteriological laboratory at Buitenzorg, Java (Netherlands East Indies); J. de Does, government veterinary surgeon in the Netherlands East Indies at The Hague (Netherlands); Dr. P. Knuth, professor of the Superior Veterinary School at Berlin (Germany); H. Vallée, professor of the National Veterinary School at Alfort (France).

VI. Communications and Informations.

To become member of the congress address, with the application, to the general treasurer, Mr. D. F. van Esveld, professor of the State Veterinary School at Utrecht (Netherlands), the amount of the cotisation and 17 shillings.

For extraordinary members (students of veterinary medicine, etc.) the cotisation has been fixed at 8s. 6d. Ladies' cards are distributed to 4s. 3d.

Applicants to membership are requested to send their names and addresses as correctly as possible, to avoid any errors.

For information relating to the details of the congress, apply to the following persons:

Prof. Dr. D. A. de Jong, general secretary of the executive committee at Leyden, 20 Maresingel.

Dr. H. Markus, adjunct secretary of the executive committee at Utrecht, State Veterinary School.

Dr. H. Remmerts, adjunct secretary of the executive committee at The Hague, 6 Tournooiveld.

Z. Th. de Jongh van Arkel, director of the secretary's office at The Hague, 6 Tournooiveld.

THE PROBLEM OF MILK HYGIENE.

CLEVELAND, O., April 15, 1909.

EDITORS AMERICAN VETERINARY REVIEW:

GENTLEMEN—The mid-year correspondence from the Secretary of the A. V. M. A. has been received. I see that some changes in the program are contemplated and that there is to be a section on milk hygiene. This is a question that greatly interests the veterinarian and the consumer of milk. Public health requires that the problem of milk hygiene receive our very best study and attention. I have been actively interested in this great question in our city for the last six years. It was about that time I took the matter of meat and milk infection up with the committee on sanitary affairs of the Chamber of Commerce, also the acting committee on sanitation, Academy of Medicine. Dr. Schofter, of the B. A. I., and myself met these committees and got matters started. I think we have learned this in our contact and our connection with a body of physicians that they as a body of practitioners do not think seriously of bovine tuberculosis as transmissible but are awakening to the fact, while the veterinary profession has believed transmissibility to be a fact. Yet, with all of our talk and articles written, they have not had their awakening influence only as they are read and we come in contact with the physician and impress on him the facts as we believe they exist. So with the veterinary section of the International Congress on Tuberculosis, represented by able veterinarians reading papers and giving evidence on this great question has had its quickening effect. And these facts presented to the physician in his profession brings to all forcibly the existing conditions. But there is a great work to be done along this line, and I wish to make a suggestion through the REVIEW, and, first, I want to say that the veterinary section of the Academy of Medicine, Cleveland, happily associated, had the great pleasure of listening to M. P. Ravenel, M.D., Professor of Bacteriology and Hygiene, University of Wisconsin; subject, "Modes and Sources of Infection in Tuberculosis." His eminence as an American authority on tuberculosis, made the subject of great interest to the great number of physicians who heard him. His personality and delivery was such as to impress the facts, serious as they were, upon his audience. He felt that this great question demanded some of his time to say to the people through the physicians and veterinarians that he believed in two kinds of infection, human

and bovine, and the transmissibility of the same, and gave his proofs, saying we would be criminally negligent to the welfare of public health if we did not take the bovine source of danger into consideration, so that I feel free in suggesting to the committee on program that they endeavor to secure Doctor Ravelen to come over to Chicago and read a paper at the A. V. M. A. on "Modes and Sources of Tubercular Infection," having his paper fill in with others which the committee have selected for the session on milk hygiene, and invite the medical men through their medical associations to said session. I'm sure the veterinarians will be glad to hear this eminent investigator, and if we can get the medical men present to hear the veterinarians on this subject, it will be mutual and great good will come of it.

Respectfully,

A. S. COOLEY.

VON BEHRING'S BOVOVACCINATION RULES NOT FOLLOWED.

NEW YORK CITY, April 15, 1909.

EDITORS AMERICAN VETERINARY REVIEW:

GENTLEMEN—Professor Russell, of the Wisconsin Experiment Station and Agricultural School, in a special publication, brought forward his results with Bovovaccine. As I have been experimenting with Bovovaccine myself for nearly five years and always made it my object to follow strictly the rules laid down by von Behring, I cannot help putting in my personal objection as to the value of such experiments as made by Prof. Russell, especially as he is well aware of the fact that he committed gross negligence as to the rules of bovovaccination. Concerning this matter, I had personal correspondence with Prof. Russell, drawing his attention to certain facts, but apparently without the necessary satisfaction. Therefore, I am compelled to draw the attention of the eventual readers of Prof. Russell's publication to the above stated facts.

Respectfully yours,

WILFRED LELLMANN.

SOCIETY MEETINGS.

INDIANA VETERINARY MEDICAL ASSOCIATION.

The thirteenth annual meeting of the above association was held January 13, 1909, at the Indiana Veterinary College, Indianapolis, Ind.

Meeting called to order by President Roberts.

Roll call. Minutes of previous meeting read and approved.

PRESIDENT'S ADDRESS.

I know from past experience that the address of the President is not always interesting, as we are all anxious to get into further business. I have not prepared a speech, but there are a few things that we should bear in mind, and the most important is the amendment to the present veterinary law. You know our present law is in jeopardy. There is a large sentiment trying to abolish the State Examining Board. I think it is necessary that the members of this Association, as well as the veterinarians of the state, should not take one step backward in veterinary legislation, as we would have no relief, so far as legislation is concerned, for many years. So I think that as the new amendments are ready you should pay close attention to them and weigh them well, and if you have any remarks to make, we shall be pleased to hear them.

Government inspectors are only at government abattoir, while slaughter houses should be covered by veterinary inspectors, so, if we have a few reactors, they can be taken to these abattoir, that the animals may be sold subject to inspection.

If this is the case, I think it is the duty of every state to pay for every animal condemned on the tuberculin test, at the same time I think this would work a hardship on the state and, if this is the case, then the government should pay a part of the expense. These are among the things the veterinarian has to think of.

I most surely feel that now is the time a veterinarian should be on every board of health in every county, and also that the State Board of Health should be represented by a veterinarian (Applause).

PRESIDENT—The Secretary wishes to be excused until the evening session to make his report; if there is no objection we shall pass to the next order of business.

Board of censors report favorably on names of applicants.

Motion was made and carried that such applicants be admitted as members of the Association.

REPORT OF STATE BOARD OF MEDICAL EXAMINERS.

The report was exhaustive, showing that the work of the Board is both hard and tedious. Motion was made and carried that the very fine report offered be adopted as read.

REPORT OF LEGISLATIVE COMMITTEE.

This report consisted of the proposed amendments being read by section and suggestions asked for. Under the clause defining veterinary medicine and surgery, Dr. Stubbs said leave the word castrating in, for he made more money following the so-called "quack" than if he was not in existence, so the castrating clause was left in. Thus ended all suggestions as to the proposed amendments.

UNFINISHED BUSINESS.

Bill of Dr. Furling for the prosecution of the Brothers Case, amounting to \$6.25, was presented by the Secretary. Motion was made and carried that the bill be allowed and a warrant drawn for the amount.

ELECTION OF OFFICERS.

For President—Drs. O. L. Boor, of Muncie, and Walter Langtry, of Fort Wayne, were nominated. The ballot was taken showing 37 for Dr. Boor and 4 for Dr. Langtry. On motion, Dr. Boor's election was made unanimous.

For Vice President—Drs. R. A. Craig, of LaFayette, and E. H. Pritchard, of Indianapolis, were nominated. On motion by Dr. Pritchard, the Association directed the Secretary to cast its vote for Dr. Craig, electing the latter unanimously to the office of Vice President.

For Secretary—Dr. E. M. Bronson was re-elected, the vote being cast by the President, as instructed by the Association.

For Treasurer—Dr. J. W. Klotz was re-elected in the same manner.

For Board of Censors—Drs. E. H. Pritchard, of Indianapolis; J. B. Archer, of Specer, and C. P. Wilson, of Greenfield, were elected in the regular way.

LITERARY PROGRAM.

(1) Should The State Assume Control of and Attempt to Stamp Out Influenza or Strangles? Dr. Frank Nelson, of Lebanon.

The paper dealt with the subject along the line of its cost to horses as being great enough to cause alarm, and suggesting laws along the line of those for tuberculosis.

Discussion.

Dr. Carter—What do you consider the loss to the county has been in the last year from influenza?

Dr. Nelson—That would be hard to say. You can not get a record of them. There are many who loose two or three horses in their herd, but the loss of business, while animals are sick, is more than the animals themselves.

Dr. Carter—I mean the loss to the farmer?

Dr. Nelson—Well, I have not kept tab on that close enough so that I could give any statistics; I would have to run over my records to give the amount of loss, but it has been considerable.

Dr. Carter—I should judge that Fayette County has lost \$5,000 per year. In my mind it would be quite a job to arrive at any definite figures.

Dr. Bolser—I want to ask the gentleman from Lebanon, if he does not think that influenza is contagious? I have in the last five years used a great many horses in my driving, and I have never had a case of influenza.

Dr. Nelson—That is very true, but remember a great many cases of influenza, that are supposed to be such, are not. I think a great many of these cases are pneumonia, but many veterinarians have diagnosed them as influenza.

Dr. Craig—Both diseases are curable, are they not?

Dr. Nelson—Speaking from the standpoint of a medical conversation, and taking the same stand on diphtheria, the average M. D. will say, if it is contagious, are you taking the proper precaution to prevent its spread? It is like tuberculosis; we do not notice nor do we take account of the death rate. We pass that because it is so common.

Case Reports, Dr. Clyde Hess, Kentland, Indiana.

On December 18 I was called out to see a horse that the owner said was a little off his feed. When I reached the stable I found the patient standing back in the stall with his head down, limbs

swollen to two or three times their natural size, pulse beating 60 per minute, hard and wiry, breathing accelerated, temperature 105. Upon inquiry I found the patient had been in harness every day up to four or five days previous, and during which time he had been turned out in the stalk field during the day and stabled at night. I diagnosed the case as one of lymphangitis, gave a physic ball, and a capsule each of *Terebinthinae* and *Aromatic Spts. of Ammon.* with hot stoups to the limbs, leaving to be given:

Rx.

Quinine Sulphate.

Aromatic Sulphuric Acid.

Fluid Extract Nucis Vomicae.....aa 3 iv

Tincture Ferri Cloridii.....3 i

Tincture Gentianae3 iv

Aquaeeqs. ad. 3 viii

Sig. 1½ ozs. every four hours.

On my return December 20, I found the swellings had almost entirely subsided, temperature down to 100, respiration nearly normal, the pulse quite weak and very little appetite for grain, although eating considerable clover hay. Adding to my former Rx. Fl. Ex. drs. iv Digitalis, and leaving to be given twice daily half oz. doses of Pot. Nit. On December 24 he seemed worse, and I was again called, but being out of town, the owner decided to wait for my return, but on the following day a practitioner from a neighboring town was passing and was called in to look the patient over. After looking the patient over and finding a temperature of 103, patient in a standing position, and the owner telling him that the animal had not lain down for 36 hours, the passing Veterinarian told the owner that he had a case of peritonitis and that my treatment had only aggravated the case, and that he was too far gone to receive any help, and that he would be dead before the following morning. On my return, December 28, I was at once called, and having in company with me a neighboring veterinarian, asked his opinion. After looking him over thoroughly, and finding a temperature of 103, eyes sunken, pulse weak, constantly changing one foot from one to the other, he diagnosed the case as a renal abscess with a pleural exudate which was likely, secondary to the lymphangitis. On December 29 patient still standing, with very little change, only the temperature increased to 105 and the respiration more

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laborious. On the night of December 30 the patient died. Post mortem—Found a small quantity of pus in the pelvis of the kidney and uretrers. The pleural cavity contained considerable exudate with pus and the lower lobes of both lungs were gangrenous.

Discussion.

Dr. Scripture—I would like to ask the gentleman if he really considered that a case of lymphangitis, or a case of purpura haemorrhagica?

Dr. Hess—I would consider it a case of lymphangitis, because the horse had been perfectly well before and purpura, as I understand it, always follows a sick spell of some sort.

Dr. Scripture—I had a case exactly like it. I treated it identically the same as he did, and before I had gone a couple of days I realized I was up against purpura. A veterinarian ran into the case accidentally, and we treated it together and it took two months to cure that horse. He was sold and went to Chicago as a driving horse.

Dr. Pritchard—I believe the gentleman diagnosed the case correctly; in purpura we usually have swelling around the body and head, and he don't describe any in this paper.

Dr. Boor—This swelling came up in 24 hours; the animal's body is first class.

COLIC.

Dr. O. C. Newgent.

This paper was so good in its etiology, pathology, symptomatology, prognosis were so well handled that we could not raise a discussion on them, but the treatment, as usual, started the discussion, which was as follows:

Dr. Bronson—This is a good paper, and I don't know how I can start anything, unless it be on the treatment.

Now, we will not include the stomach, but will go to the intestinal tract. I have a hobby; in my estimation, the one safe bet, pardon the slang, and that is Arecoline. Out of 60 cases four died, and post mortems convinced me that the theory I had in mind was undoubtedly correct. The posts were one volvulus, one intussusception and two ruptures.

Member—It seems to me that there is something wrong. We ought to be here for the good we can get out of it and if we cannot teach each other something, we are not doing any good at

this meeting. So far as Dr. Bronson's treatment is concerned, I realize that he is right in his prescription, only he should go farther into detail.

Dr. Bronson—You reminded me that I did not go far enough into detail; you are perfectly in order, I assure you. My intentions are, to my fellow practitioners, that if I think I know something that may be new or of interest to you, I am only pleased to tell it, and I hope you will be the same with me. I was led to take this line of treatment up two years ago. Dr. Davis read a paper at that time in which he broke away from the old line treatment and advised eclectic drugs, and his departure only made me determined to experiment along the line I had in mind, but was somewhat timid about taking up. I went to a manufacturing chemist house here in the city, and put the proposition up to them. They said: What do you want to carry out your experiments? I informed them that I could not say definitely as to a definite combination at that time, but did tell what was needed to start; I got it promptly and started in, giving them reports of all 60 cases, which they have in pamphlet form, and which will probably be of more benefit than my explanations at present. The literature on Arecoline was so hard to get hold of, that I was held back in my desires. The only thing I could learn of it was that it was a producer of secretions. At last I got in communication with a lieutenant that was in the Boer war with the cavalry, and his reports were the final thing that convinced me to go on with Arecoline. My theory was if Arecoline produced secretions, it would soften the contents of the intestinal tract and the contents would be more easily passed by the vermicular motion. I found its action upon the heart is somewhat like Digitalis, in that it slows it down and makes it much stronger. Occasionally I found the action did not last seemingly long enough, so I added Eserine and found that, instead of lasting 30-40 minutes, it lasted from an hour and one-quarter to an hour and one-half. I also found that the Eserine checked or depressed the heart to some extent, so I added Strychnia to the combination and I got the present formula of: Arecoline Hydrobromate 1 gr., Eserine Salsilate $\frac{1}{2}$ gr., Strychnia Sulphate $\frac{1}{2}$ gr. I rarely ever have to resort to the physic ball or the trochar any more, although sometimes F. E. Nux Vomica is left to be given in small doses 2-3 hours for 3-5 doses, simply for its action as a perastaltic stimulant.

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Dr. Carter—Did you ever try giving smaller doses of Arecoline? Half grains have accomplished seemingly a wonder for me. I have used quite a little in $\frac{1}{4}$ to $\frac{1}{2}$ grain doses; in large doses I do not get the peristaltic action as well as with the smaller doses.

Dr. W. B. Craig—My experience with colic leads me to the belief that Dr. Newgent had a splendid paper. I do not know that there is any hard and fast rule for the treatment of colic, as there are no two cases alike; there are no two cases that have the same symptoms. It seems to me that when a man goes to see a case of colic he wants to take up the expression of his patient; he wants to consider carefully the condition of the pulse; he wants to consider the temperature; if you have a horse that is scared, you have something more on your mind, but if you have a clear case of colic, then give him something to start it up; give him a small dose of Arecoline, then follow up with a dose of oil. At the same time, if the pulse is not good, fortify the heart with a little Strychnine. I am constitutionally opposed to giving a horse anything in the narcotic line to stop his pain simply because it satisfies the owner. Pain is only an indication of some derangement, and he will intimate where his pain is. I have not had as wide an experience as some of you, but I have used the hypodermic and I think I have better results with Esserine.

Dr. Scripture—If I have peritonitis, I leave out Arecoline, as it is a dangerous base if you have peritonitis.

CASE REPORTS.

Dr. H. E. Titus, LaFayette, Indiana.

Dr. Titus was not present, but sent his reports by mail and they were read by the Secretary.

Case (1) Hernia of intestine through the Foramen of Winslow.

I was called to see an eight-year-old gelding in the early morning, belonging to the Transfer Co., supposed to be suffering with colic. Upon my arrival I found the animal in a great deal of pain and at times sitting on his haunches. It was not very much trouble to diagnose an obstruction of the intestines, and I gave hypodermics strychnia, pilocarpine, esedine and arecoline. Patient gradually grew worse until 3 p. m., when he died. Post mortem—A small portion of the small intestine,

strangulated, was through a small opening near the stomach, which, upon close examination, proved to be the foramen of Winslow.

Case (2) Toxic Gastro-enteritis in calves.

Received a call from the northern part of the state asking me to call to see a herd of pure bred Hereford calves that were sick. When I reached the farm at dark I found a heard of 38 young calves still with their mothers, four dead and five sick, the rest not looking the best. The first thing I did was to hold a post mortem on one of the last to die, and it proved to be a very acute case of gastro interitis. Congestion of the mucus membrane of the abomasum and intestines with sub-mucus infiltration.

Symptoms—These varied somewhat. Removed 5 from the herd and their temperature varied from 103-105½ F., weak, remain down most of the time, grind their teeth; one would attempt to roll over, as if with colic; some a profuse diarrhoea, others constipated.

Treatment—Small doses of Magnesia Sulph., a few drops of Bacterol in strong coffee and eggs every two hours; this was continued during the night. The remainder of the herd were given each three doses of Magnesium sulph. and were then placed on artificial Carlsbad salts three times a day. Next I proceeded to inspect the rations fed to the nurse cows and found all the food wholesome except the ensilage, which was mouldy and some of it decomposing; this portion of the ration was discontinued and upon my return in 4-5 days I found there had been no more deaths in the herd, and it looked much better, especially one valuable bull calf three weeks old, whose temperature was the highest and I had given an unfavorable prognosis upon my first visit.

Case (3) Rupture of the liver in the horse.

This is not rare case, but it is a case that gave me some trouble as to its nature. July 7 was called in the city to see a six-year-old horse supposed to be suffering with colic. I found my patient eating and not inclined to move around very much and when he did, it was with caution; at times he would show some pain, but at no time would he roll; temperature, 103 F. From the owner I learned that 4-5 days before this horse had a hard fall, but had been able to do his work as before. I left a few doses of Cannabis Indica and would return the next day. Upon my return found patient improved, so to speak, tempera-

ture 102, and eating, showing no pain. On 10th received word that he was worse and ordered him to hospital, in which six hours after he died. Post mortem: It revealed one of the largest livers I have ever seen. It seems that he should live nine days after rupture of nearly two-thirds of the organ.

Case (4) Paraplegia followed by Monoplegia in a three-year-old coach stallion.

This was a case recently imported and was being broken to show in the harness class at the International. He had been hitched perhaps a half dozen times when I was called to see what was the matter with him. I found a nice case of paraplegia, which is very common in this class of young imported horses and, as there was neither anesthesia nor vesical paralysis, I was inclined to think that it was of cerebral origin. Administered a cathartic, placed him upon large doses of Potassium Iodine alternating with Fowler's Solution. Patient remained about the same for 6-7 days, when one day I called to see him and asked the attendant to walk him out of the stall and was surprised to see him only able to use one front limb; he being able to use the left, the other dragging. On returning the next day to take a photo of him, he walked out as if nothing had happened. He has been under treatment about eight weeks and is progressing as well as the average case of paraplegia does, and that is very slow.

Discussion.

President—It is apparent that these cases of the calves were brought about by the ensilage. We will ask the gentlemen present if they have had trouble from this source?

Dr. Phillips—I would like to know if any one thinks this was brought about by the ensilage direct, or through the milk. As I understand it, the calves were 2-3 weeks old, and they were eating some ensilage.

President—Of course, I do not believe that paper stated that they were eating ensilage, but from my experience I should rather believe the calves were infected from the ensilage direct than from the milk.

Dr. Axby—A condition exists in a certain dairy near Lawrenceburg very similar to that described in the paper. At the same time it seems that it is impossible that a calf so young would become infected as described in the paper, but in these cases the mother is always sick and continues until the calf is old.

enough to wean, while in the case I have in mind the calf was sick while the mother might be all right. At the time the ensilage was getting low, the silo being only about one-fourth full. This fellow has proof to his entire satisfaction that this ensilage produces the effect, either to the calf direct or the mother gets it, and transmits it to the calf through the inoculated milk.

Dr. Boor—I will ask if these calves became sickened, if the dams were not sick, and when they were not eating ensilage?

Dr. Axby—Yes, those that were sick, but the mother does not get so sick proportionately. The calf usually dies; it does not matter whether it is still sucking and gets no solid food or not. It seems to die from lack of assimilation.

Dr. Boor—What kind of a bottom did he have in the silo?

Dr. Axby—Cement.

Dr. Boor—Was all the ensilage fed from the bottom?

Dr. Axby—Yes, sir.

Dr. Boor—Was only the ensilage in the bottom in good condition?

Dr. Axby—Around the outside it was bad, and in the centre was good.

Dr. Boor—This being the case, that ensilage on the outside, or the edge of the silo would be unfit to feed, and we want to remedy it. It seems to me that if the silo is properly constructed, that the lower edge should be the best, from the reason that it is hermetically sealed and we should have the best ensilage at the bottom.

Dr. Axby—in this particular silo there was a crack and a leak from which the sorghum molasses ran out, and he concluded that he would discontinue the use from that silo. It was in this region that he got the ensilage that was most poisonous, and we reached the conclusion that this crack was the cause of the difficulty.

Dr. Boor—Was this silo entirely of cement?

Dr. Axby—No, sir; cement base and wood.

Dr. Boor—I should like to suggest that lathing on the inside can be made, the lathing then plastered with cement. I noticed have seen some silos built that way and the ensilage was first class. Of course, the base must be first class in every respect, but a silo built this way should be perfect, and the ensilage on the bottom should be as good as that on top.

Dr. Scripture—There is one man I have in mind that runs a dairy in our place and he had a silo built inside the barn and dug a pit four feet deep and cemented that up solid with concrete

even with the floor; and then he built a wall with lumber and filled that with sawdust between the two walls, and forever after that he did not have one bit of trouble. He just kept the air from it. In starting to use this, you must throw off from 2-3 feet in depth, because this ensilage seals, and unless you keep the air from it you will invariably have this trouble. He had trouble when he used the old silo, but none since he used the new one.

Dr. Boor—I think that will solve the trouble myself.

Dr. Carter—I had a case of gastro-enteritis myself in a calf. I held a post mortem and when I had made my decision, they were not satisfied, and I told them to pack the head in ice and send it to Indianapolis to the state department. They did, and were sent back word that it was a clear case of hydrophobia, and had the people scared quite a bit, but we have not seen any cases of the disease as yet.

SHOEING AND LAMENESS.

By Dr. Otishiner, Butler, Indiana.

This paper was so thoroughly written that the discussion was nil. The paper was worthy of a place in the minutes, but he saw fit not to allow us that privilege.

During a short wait for the lantern, we returned to some unfinished and new business, as follows: Motion was made and carried that the secretary purchase a new seal, as our name was changed at our last meet, from Indiana State Veterinary Association, to Indiana Veterinary Medical Association.

The secretary was also instructed to issue Dr. Franklin C. McCoy a new certificate, to replace one lost in the mail.

Motion was made and carried that the secretary and treasurer buy a typewriter.

Meeting adjourned until 8.30 p. m.

NIGHT SESSION.

Meeting called to order by President Boor.

Report of Treasurer Dr. J. W. Klotz, and of Secretary Dr. E. M. Bronson.

On carried motion, both the above reports were adopted as read.

RARE CASE IN PRACTICE.

Dr. Payson Schwin, Elkhart, Indiana.

A large bay gelding about 11-12 years of age, in good, vigorous condition, owned by the Am. Ex. Co.

When first called to see him, found his penis in a state of erection, with prepuce and sheath considerably congested and swollen. I scarified the swollen parts and used hot applications with mild liniment frequently applied, which reduced the enlarged prepuce, but the erection stayed for over three weeks, and only got it reduced by the use of cold water applications followed by an elastic bandage applied to the protruding part; after a week of this treatment the erection disappeared, but left the penis partially paralyzed, about 4-6 inches being pendant all the time.

The horse is now in service and seems in the best of health, except this local defect. What caused this condition I have never been able to give a rational cause.

Discussion.

Dr. Roberts—This case is something that is entirely new to me, and it is one of just more than passing notice, and I would like to ask if there was any way of reducing it or getting it back into the prepuce?

Dr. House—I saw an almost similar case, only the penis was in a constant state of relaxation and became considerably swollen. However, the man was very poor and the horse was not very valuable and he treated him. I did not know anything of it for several weeks, and the man told me the animal got all right.

Dr. Boor—I will ask if there is any impediment in the animal's walk?

Dr. Schwin—None at all; he is a horse in good physical condition, and in passing the soft rubber catheter I never found one pass easier.

Dr. Bronson—Does he have any trouble in urinating?

Dr. Boor—None at all.

Dr. C. I. Fleming, of Terre Haute, Ind., presented an excellent paper on "Tuberculosis—Possibilities of Infection and Contagion," after which Dr. R. A. Craig, of LaFayette, Ind., gave a most instructive talk on tuberculosis, illustrating the same with lantern slides.

Drs. G. H. Roberts and J. C. Roger spoke on foot-and-mouth disease, illustrated with slides. Dr. G. H. Roberts also interested the members on the subject of epizootic lymphangitis.

The program being finished, the president announced his appointments for committees for the ensuing year.

Motion made and carried to adjourn to meet 9 o'clock January 14, 1909, for the clinics.

Reassembled 9 a. m. January 14 at Indiana Veterinary College.

CLINICS.

An unfortunate accident greatly marred the program to have been carried out by the Arrangement Committee. The accident was the breaking of one of the senior student's left limb, just above the ankle. The surgery, however, was as follows:

Tenotomy of the Perforans, standing—Dr. John Allen, Greenwood, Ind.

Peroneal tenotomy; standing; anesthetic, Codrenin; scissors operation—Dr. E. M. Bronson, Indianapolis, Ind.

Umbilical hernia, dog; re-cropping ears, same animal—Dr. S. C. G. Kelly, Elwood, Ind.

Double Neurectomy; standing; anesthetic, Codrenin; scissors operation—Dr. E. M. Bronson, Indianapolis, Ind.

Double neurectomy; table; no anesthetic—Dr. H. E. Titus, LaFayette, Ind.

Double tenotomy; "nigh hind;" table; no anesthetic—Dr. E. M. Bronson, Indianapolis, Ind.

Adjourned to meet January, 1910, unless otherwise ordered.

E. M. BRONSON, Secretary.

IOWA VETERINARY ASSOCIATION.

The twenty-first annual meeting was held in Knights of Columbus Hall, Fort Dodge, Iowa, January 19, 20, 21, 1909, with President D. E. Baughman in the chair. President delivered an able address. Upon motion of the secretary, the minutes of last regular meeting, as published in the April, 1908, number of the AMERICAN VETERINARY REVIEW, were duly accepted.

Dr. C. E. Stewart reported the death from appendicitis of Dr. J. R. Saunders, of Corydon, a graduate of Chicago Veterinary College, 1895. The reports of the secretary and treasurer were received by the association, the treasurer's accounts being approved by the auditing committee. Resignations of Drs. J. H. McNeil, Columbus, Ohio, S. T. Miller, Wenatche, Washington, and F. R. Roys, Cashmere, Washington, were accepted and all three were elected to associate membership.

Dr. A. L. Wood reported peculiar symptoms in herd of short-horn cattle which occurred last October, beginning with rubbing against wire fence persisted in until skin and underlying tissues were extensively lacerated; animals were wild, excitable and violent, hard to control. Pulse, respiration and temperature accelerated; animals bellowing toward last, one showing symptoms of abortion prior to death; young heifers were most susceptible. These cattle were running in pasture through which ran a small creek and were fed corn fodder. All affected animals died.

Post mortem—Rumen nearly normal, congestion of arterioles, cultures gave no clue.

Dr. Drinkwater reported similar symptoms in fattening cattle which were being fed musty corn.

Dr. H. L. Stewart thought same came from eating buckeye.

Dr. G. M. Walrod reported cattle licking udder until it bled, rubbed until lacerated, bit legs until they were badly torn. Post mortem showed intestinal tract dry throughout; treatment, changed feeds and gave physics.

Dr. Hazlet saw similar symptoms in pasture where hog wallow was at head of creek; there was long grass along this bottom and creek overflowed occasionally.

Dr. J. W. Scott, similar conditions, only post mortem showed small, hard nodules, same as nodular disease in sheep.

Dr. T. F. McEvers' difference was that steers could not move, would push in corner until death.

Dr. H. M. McConnel reported 45 head out of which 21 died. Symptoms were as follows: Switching of tail, stamping, rubbing legs against other. Lived from 12 to 36 hours; were being fed millet hay about out; changed to timothy and cattle were eating seed which was musty; died in convulsions. Post mortem showed intestinal tract full of seed. Dr. H. B. Treman was called to see calves all died within three hours after showing symptoms, which were all same. Were being fed sweet corn fodder. Changed feed, gave laxatives; none died after next day. Dr. Joehnk saw similar conditions, except that cattle were older. Dr. R. R. Dykstra reported similar symptoms. Post mortem showed hemorrhagic septicemia. *Bacilli bovo septicus* was isolated. He suggested thorough disinfecting after each outbreak.

Prof. M. H. Reynolds suggested that careful post mortem might have shown hemorrhagic septicemia, particularly if skin and endocardium were thoroughly examined. Bacteriological examination in that case would have shown *bacilli bovo septicus*. Calves seem to be most susceptible.

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Dr. F. J. Nieman presented "Little Things that Help in Practice."

Dr. H. B. Treman presented "Scraps;" Dr. Wm. Drinkwater presented "Colic."

Meeting adjourned at 6 o'clock.

Meeting called to order at 8 p. m.

Dr. C. W. Anderson reported case of pericarditis in the ox.

Dr. H. L. Stewart reported urethral calculus of the ox, which brought one of the best discussions of the meeting, as to the advisability of shipping at once, or of operating by cutting down onto the urethra over ischium and continuing to fatten a number, claiming the latter to be best.

Dr. A. E. Richardson reported a case of purpura hemorrhagica.

Dr. H. M. McConnel gave a few minutes' talk on bovo vaccine.

Dr. W. E. Miller reported a case.

Dr. G. M. Walrod reported experience with swine vaccination as supplied by the Sorby Vaccine Co. A number related their experience with this product. Some were quite well pleased with the results obtained. Others declaring there were no results.

Dr. F. H. Hollingsworth reported case of choke very high; could almost feel with fingers through mouth, but could not move within reach. Operated, making incision one inch long through walls of oesophagus; removed a cob about two inches long; sutured three different times. Could not get sutures to hold, sloughing out each time. Afterwards resorted to holding skin together while animal was drinking or eating sloppy food; this continued for 25 days, animal recovering slowly and wound finally healed with a very small scar.

Meeting adjourned.

January 20. Meeting called to order 10 a. m.

Dr. P. O. Koto read paper on bovine tuberculosis and its eradication in Iowa.

Dr. H. E. Talbot presented a paper, tuberculosis in Iowa herds.

Dr. J. W. Kime (M. D.), presented draft of a bill dealing with tuberculosis, which was to be presented to the Legislature. This was thoroughly discussed and in the minds of the majority was not worthy of the support of the veterinarians of Iowa.

Your committee on Sanitation would report that they recommend that steps be taken to see that our railway cars receive better cleaning, more thorough disinfecting, and to be kept in a more sanitary condition, as we believe this to be one of the chief sources for spreading disease. Our stock cars are not cleaned often enough, and when they are cleaned, it is often out in the country beside some small stock yard, or in some slough where the litter is left to decompose and the rains carry it down stream. The Canadian Government has refused to even admit cars that have been through the infected district where foot-and-mouth disease exists. Our slaughter houses where government inspection is not maintained, need attention, as they are usually far from being in a sanitary condition, generally located along some small stream where all refuse is thrown, the first little freshet carries all down stream, spreading hog cholera, tuberculosis and many other diseases.

Our dairies should also be put in a more sanitary condition, testing the cows for tuberculosis, branding those condemned, using the letters T B so that unprincipled owners can not pull out ear tags and sell or put back in the herd a cow that has been condemned for tuberculosis. The premises should be thoroughly disinfected; this should be done under the supervision of the state, for when left for the owner to do, it is only half done and in many cases not done at all, and the non-reacters are put in the same stalls and soon contract the disease. Attention to these things, together with proper construction of buildings, so that abundant sunlight and fresh air can be admitted; this, with good drainage of the building sight and yards would do much toward hindering the spread of contagious diseases.

Afternoon of second day.

Professor M. H. Reynolds, of Minnesota Agricultural College, delivered a fine lecture on "Safe, Clean Milk." This lasted over an hour, and was illustrated by slides thrown on a curtain. This was one of the most instructive and entertaining papers presented to the association, and every veterinarian present received information that will aid him in his efforts to establish and maintain milk sanitation in his community, a subject which is uppermost in the minds of a great many veterinarians of Iowa just at present. It developed in the discussion that about fifteen of the cities of the second class, as well as a number of the larger, now have municipal regulations regarding the milk supply and demanding a tuberculin test for all dairy cows. A vote of thanks was tendered Dr. Reynolds.

Dr. J. W. Kime, M.D., of Ft. Dodge, delivered an illustrated lecture on "Comparative Tuberculosis." These two lectures were delivered at the Magic Theatre and were well attended by the residents of the city and the dairymen generally, and will undoubtedly help to obtain cleaner, better, purer milk for the city of Ft. Dodge.

There was some discussion after the meeting was called to order in the assembly room to which the meeting adjourned from the theatre.

Twenty dollars was appropriated to Baughman & Kaderabek for expenses of the hall and the clinic and rent of hall.

Secretary was authorized to purchase a typewriter to be property of the association.

On motion, Secretary cast ballot of the association for election to membership of those applications approved by the Executive Committee.

Applications for membership of Mahlon Russell, Bangor, Iowa, and Harvey E. McGee, Osceola, Iowa, graduates of the Western Veterinary College, were refused and Secretary authorized to refund their money.

Mr. George Judish, Instructor of Pharmacy at Iowa State College, gave an address on solutions official and non-official which was one of the good things of the meeting. Mr. Judish has the happy faculty of being able to talk. REVIEW readers miss this treat owing to the Secretary not being a shorthand reporter. A vote of thanks was extended.

Election of officers:

Dr. H. E. Talbot, President, Des Moines.

Dr. A. L. Wood, First Vice-President, Hampton.

Dr. A. S. Brodie, Second Vice-President, Cedar Falls.

Dr. Hal. C. Simpson, Secretary-Treasurer, Denison.

Dr. W. A. Heck, re-elected as member of Executive Committee.

Dr. H. E. Talbot, as President, being ex-officio a member of the Executive Committee, resigned from the committee.

Dr. F. J. Nieman was elected to fill unexpired term on committee.

President Talbot was escorted to the chair and made a neat speech of thanks.

Dr. J. W. Scott presented a volunteer paper on tuberculosis, after which a general discussion of all the papers on that subject took place.

Dr. W. B. Niles, chairman of Committee on Disease and Treatment, reported. The report was particularly on the subject of hog cholera vaccine. It was very interesting and listened to closely.

Dr. C. H. Stange, Dean Veterinary Department, Iowa State College, presented a fine paper on "Serum Immunization for Hog Cholera."

Committee on Resolutions reported as follows:

Whereas, The Iowa Veterinary Association urge their members to get in closer touch and more helpful relation with the live stock interests, particularly in the matter of control work with infectious and preventable diseases and in work for the improvement of live stock; therefore be it

Resolved, That the Iowa Veterinary Association heartily approve the effort of the State Veterinary Department to secure an appropriation for the reimbursement of cattle reacting to the tuberculin test;

Resolved, That we recommend an ordinance be passed by all cities and towns requiring inspection of dairy and meat products;

Resolved, That this association recommend that the thirty-third general assembly appropriate a sufficient sum to establish a serum station for the purpose of producing a hog cholera vaccine to be furnished the swine producers at actual cost.

Whereas, The U. S. Pharmacopeia is so to be revised; and on account of the importance of the revision from the standpoint of veterinary practice, be it

Resolved, That in the sense of this association that at least one member of the board of revision for the U. S. P. should be a qualified veterinarian.

Whereas, As a number of the medical profession and Drs. Baughman and Kaderabek have extended to us in convention assembled a lunch and smoker which was enjoyed by all present; therefore, be it

Resolved, That we extend a vote of thanks to the members of the medical profession and to Drs. Baughman and Kaderabek for their very courteous evening's entertainment.

Whereas, Death has removed one of our esteemed members, Dr. J. R. Sanders, of Coroydon; be it

Resolved, That the members of this association extend to the bereaved family their heartfelt sympathy.

Be it further resolved, That these resolutions be spread upon our minutes, also a copy of these resolutions be sent the bereaved family.

A long list of new members were admitted.

HAL. C. SIMPSON, Secretary.

CENTRAL CANADA VETERINARY ASSOCIATION.

The seventh annual meeting of the Central Canada Veterinary Association was called to order in the City Hall, Ottawa, Canada, by the president, Dr. Kenning, at eight o'clock in the evening, March 10, 1909.

The president, after thanking the association for the honor conferred upon him by his election to the presidency, alluded to the efforts made during the summer to organize a suitable clinic, which, however, had to be postponed.

The election of officers was then proceeded with which resulted as follows: Hon. President, J. G. Rutherford, Ottawa; President, W. C. McGuire, Cornwall; Vice-President, J. B. Hollingsworth, Ottawa; Secretary-Treasurer, A. E. James, Ottawa; additional members of the Council, Drs. Higgins, Harris, McAlpine, Kenning, Kennedy, W. C. Young, Hilton and Boucher.

Drs. W. C. McGuire and A. E. James were appointed delegates to the coming meeting of the American Veterinary Medical Association, which is to be held in Chicago next September, under the presidency of Dr. Rutherford, of Ottawa. Dr. Rutherford urged as many members as possible to attend the convention as they would be well repaid for their trouble and expense.

The following were received as new members to the association: A. G. Acres, V.S., Sudbury; R. Barnes, V.S., Ottawa; D. E. Demoulin, V.S., Lancaster; R. T. O'Hara, V.S., Maxville; Thos. McFarlanie, V.S., Ottawa.

Dr. Chas. Elliott, St. Catherines, president of the Ontario Veterinary Association, wrote regarding his inability to be present but promising his assistance in an effort to secure legislation.

Dr. J. G. Rutherford, Veterinary Director General for the Dominion, was called upon to address the association concerning the steps recently taken in connection with veterinary legislation in the province and his remarks are summarized as follows:

"Through the action of the present Provincial Government in assuming the responsibility for the Ontario Veterinary College, the veterinary profession has been saved much labor and annoyance. We cannot be too strong in our expressions of appreciation in this regard. In addition it is anticipated that the University of Toronto will give definite recognition to the institution under its new management and the Senate of the University is now considering a new degree.

"The old institution has taken a new lease of life, but it must be borne in mind that it is quite impossible for Dr. Grange to make a complete and radical change during his first year of office. Dr. Grange is a very hard worker, and I feel satisfied that in one and a half or two years this college will be the equal if not the superior of any three-year college on this continent. Eighteen men, previous graduates, are now completing their third year in anticipation of receiving the new diploma, and there are nearly two hundred men in the other classes; these are most encouraging features.

"I feel satisfied that the status of the college will still be greatly improved, although many changes have already taken place.

"With reference to proposed legislation, a subject of importance to all present, it may interest you to know that two weeks ago I attended a meeting of the organization committee, at which Dr. Grange presented a draft bill. After discussing various features I suggested the repeal of all Acts now in force respecting the profession in the province. I further suggested that it was advisable to employ a capable solicitor to draft and assist in the passage of a bill by the Legislature. As the Government is introducing the bill the labor required is not so great as would otherwise be the case, yet it is necessary to have someone to look after our interests.

"The fund collected some years ago is available for this purpose, and the services of Col. Robertson, an attorney of repute, well versed in matters of this sort, have been secured. He has been provided with copies of the bills in force in Manitoba, Alberta and Saskatchewan, as well as that of the Royal College of Veterinary Surgeons. A draft bill was received on Friday last and as there were some matters requiring a change I was in Toronto yesterday to discuss them and am able at this time to present a draft bill to this meeting for consideration."

Dr. Rutherford then read the bill clause by clause, explaining the provisions, outlining the scope, as well as defining the requirements of practitioners.

A free discussion was indulged in by Drs. Thacker, Boucher, Lynchke, James, McGuire, W. C. Young and others. In this discussion many points were brought out indicating that features apparently not covered by the draft as read were amply provided for. The draft as read was unanimously accepted by the association.

An appreciative vote of thanks was passed to Dr. Rutherford for his labors in advancing the interests of the profession.

Dr. Rutherford in reply stated that the veterinary profession had been much maligned and very inadequately compensated for their knowledge and skill. In the Health of Animals branch of the Department of Agriculture there were now about one hundred and fifty graduate veterinarians employed, and in the future it will doubtless continue to expand its influence and to train veterinarians for specialized work in the control of contagious diseases and meat inspection.

Dr. James presented a very interesting case report asking for a diagnosis, as follows:

On January 23d he was called to prescribe for a mare with a cough which yielded promptly to treatment. On the 8th of February he was again called to see the same mare then suffering from an inflammatory condition of the right eye. There was an extensive tumefaction of the lids and profuse lacrymation. An examination of the cornea revealed minute depressions when viewed from the side; the conjunctiva was injected and oedematous. The appetite was unimpaired and there was no constitutional disturbance.

The coachman could give no history of the case, it having come on during the night. The conclusion then reached was that the mare had injured the eye on a staple driven into the wall immediately above the feed box.

The treatment consisted of frequent boric acid fomentations and the eye was continually covered with a pad saturated with boric acid and opium in solution. Under this treatment the eye regained its normal appearance in forty-eight hours.

On February 11th another call was received to see the same case, at which time the other eye was found to be affected, presenting similar symptoms but accompanied with severe constitutional disturbance. The pulse was 80, temperature 105 2-5° F., loss of appetite and tremors.

The mare was placed on a soft diet, sulphate of quinine was prescribed in 3j doses every three hours, the eye being treated as in the previous instance.

On the following day there was a reinfection in the right eye; there was extensive tumefaction, a profuse discharge of pus from both eyes, which were very sensitive on palpation. An examination on the third day after the involvement of both eyes the cornea of each was opaque and presented the appearance of two milky white balls. The temperature subsided and the appetite returned.

On February 25th the tumefaction had disappeared, the cornea of each eye had cleared, but complete cataracts had developed in both eyes.

February 15th the mare was placed on Pot. Iodide 3j doses three times a day, and in addition a 2 per cent. solution of the same drug was applied to the eyes three times a day.

The pupils in spite of the repeated application of eserine have remained dilated.

For the past ten days the mare has been given hydrarg-chloridum corrosivum gr. iv t.i.d. and the application of eserine has been continued.

The peculiar features of the case are the rapid recovery of the eye first affected, the subsequent reinfection, the severe constitutional disturbances and the short course to complete blindness.

Two other horses in the same stable have not manifested a similar affection and the coachman was instructed to thoroughly disinfect his hands before attending to them.

In conclusion Dr. James asked if any had seen a similar case, and what is the diagnosis, glaucoma or gonorrhoeal ophthalmia.

An interesting discussion followed but no further light was thrown on the subject which fully established the diagnosis.

Dr. A. W. Harris also reported a case of tetanus following a minor surgical operation with 24 hours. As it did not seem possible that tetanus could have developed so quickly after his slight operation, considering the precautions taken, he was later able to ascertain that the real cause was a wound in the foot, resulting some ten days previously from an injury with a piece of plate glass. The removal of the shoe and examination of the hoof revealed the lesion, which was very small. This, however, was drained, the animal placed on the carbolic acid treatment, and an uneventful recovery followed. He pointed out the necessity of very carefully observing every symptom, however slight, when

working with a horse, as he had noticed in this instance, on the day of the minor operation that the membrana nictitans was slightly exposed when placing the twitch, but this feature was passed as of minor importance until later developments impressed its meaning.

Among those present were: Drs. A. W. Harris, R. Barnes, A. E. James, J. B. Hollingsworth, J. G. Rutherford, W. W. Boucher, C. H. Higgins, T. McFarlane, E. A. Bruce, P. E. Pallister, A. I. Telmosse and Wm. Laidlaw, Ottawa; L. J. Demers and T. H. Richards, Hull, Que.; P. J. Lynchke, Carp; J. W. Kenning, Pembroke; D. McAlpine, Brockville; W. C. McGuire, Cornwall; W. C. Young, Almonte; Wm. Nichols, Kingston; Geo. W. Higginson, Rockland; Thos. Thacker, Renfrew; A. G. Young, Merrickville; Geo. Jemison, Prescott; J. J. McGregor, Carleton Place; R. T. O'Hara, Maxville, and D. E. Demoulin, Lancaster.

As there was no further business to be brought before the association the meeting then adjourned.

A. E. JAMES, Secretary.

MONTANA VETERINARY MEDICAL ASSOCIATION.

Meeting held at office of Dr. M. E. Knowles, in the Capitol building, presided over by President Nash.

The president opened the meeting with a brief address commenting on the work of the association and the advancement and encouragement that the veterinary profession was receiving at the present time.

Reports of the committees:

Dr. M. E. Knowles, as chairman of the executive and legislative committee, made a brief report and called the attention of the association to the necessity of active effort on the part of the members towards the securing of helpful legislation during the ensuing session of the legislature.

Dr. M. E. Knowles offered to contribute \$20.00 towards the expense of maintaining a member of the association at Helena to look after the association's interests.

Dr. Knowles' report was accepted and a discussion of the question of legislation covering the practice of veterinary medicine was discussed by Drs. Thompson, Swank, Gardiner, and Wheeler.

The secretary-treasurer then made his reports.

Upon motion of Dr. A. D. Knowles, seconded by Dr. Thompson, the report was accepted as read.

The report of the committee on diseases was made by Dr. A. D. Knowles, chairman, who reported as follows:

As there has been a great deal of railroad construction work going on in this state for the past two years contractors have brought into the state a good many cases of glanders, which according to the State Veterinary, M. E. Knowles, will raise our figures on horses slaughtered at least fifty per cent.

To what extent tuberculosis exists in the state there is no way of determining under present conditions, but it is positively known that it does exist to some extent in dairy herds.

Infectious lip and leg ulceration in sheep occasions considerable loss during the late fall, winter and spring in the northern and eastern counties.

Loco, which exists in several counties of the state, is particularly bad in the Yellowstone valley and some of its tributaries, where the loss in live stock and the depreciation in value of grazing lands has been immense.

There was an outbreak of swamp fever in Madison county last year among the range horses and was therefore difficult to treat successfully.

Scabies exist to a limited extent among horses and cattle in the northern and eastern parts of the state, but the owners are dipping in crude oil and it is believed that it will soon be eradicated.

Montana receives each year hundreds of thousands of sheep from the west and south, but under the watchful care of our efficient State Veterinarian and his assistants disease rarely develops from such sources.

The question of the seriousness of the ravages of the sclerostoma equina and tetracanthum was also discussed by Dr. A. D. Knowles and some interesting data upon it regarding several cases which he had observed.

An interesting discussion of his paper then followed, led by Dr. M. E. Knowles and Dr. H. C. Gardiner.

At this point Dr. M. E. Knowles suggested that he would be willing to familiarize himself with the method of immunizing against swine plague or hog cholera, and would be glad to afford the members of the association an opportunity of availing themselves of this information.

It was the universal opinion of the association that all would be willing to come to a central point for instruction in this matter.

The following motion was made by Dr. M. E. Knowles and seconded by Dr. A. D. Knowles, that the secretary be instructed to address a letter to the director of Montana agricultural experiment station, stating it was the sense of the association that a veterinary who was also a pathologist should be secured at the earliest possible moment. That a veterinary department be installed at the station. This motion was adopted unanimously and was discussed by Prof. Clarke of the station, Dr. Swank and Dr. Thompson.

Eight new members were admitted to membership.

Upon motion of Dr. A. D. Knowles, seconded by Dr. Simmons, the secretary-treasurer of the association was instructed to pay the expenses of a luncheon after the meeting. The resolution passed.

The committee on resolutions of which Dr. A. D. Knowles, as chairman, offered the following resolutions, which were adopted:

Resolution No. 1.—Be it resolved, That it is the sense of this association that the office of State Veterinary should under no circumstance be regarded as a political one and that competency, training, moral standing and experience alone be the requisites upon which appointment should be made, and be it further resolved, that the secretary be instructed to transmit a copy of this resolution to the Governor-elect.

Nomination and election of officers then followed and the following were elected for the ensuing year:

President, Dr. E. D. Nash, Helena.

Vice-President, Dr. A. D. Knowles, Livingston.

Secretary and Treasurer, Dr. W. S. Swank, Miles City.

We were then favored with a number of papers. Dr. L. A. Wheeler gave a very instructive paper on the subject of the surgical relief of laryngeal hemiplegia, which was discussed at some length by Drs. M. E. Knowles and C. E. Simmons.

Dr. M. E. Knowles gave an interesting history of the efforts to secure adequate meat and milk inspection in the state of Montana. He called attention to the urgency of proper legislation at the next session of the Legislature.

The subject of meat and milk inspection was discussed at some length by a number of the members.

Upon motion of Dr. A. D. Knowles, seconded by Dr. Simmons, it was resolved that it was the sense of the association that

the individual members owe allegiance to and promise to extend their heartiest support to the work of the association committee in every manner possible.

Prof. Clarke, of the experiment station, was present at the meeting, and thanked the members in behalf of the station for their expression of good will.

It was moved by Dr. M. E. Knowles and seconded by Dr. Simmons that a committee be appointed by the president to look into the matter of the present live stock sanitary laws, and meat and milk inspection laws, and that the committee make such suggestions as they might deem advisable to the office of the State Veterinarian and to the state live stock sanitary board. The chair appointed the following committee: Dr. H. C. Gardiner, Dr. J. A. Peede, Dr. J. P. Thomson.

Dr. A. H. Cheney favored the association with an address upon the work of the association, commending highly the effort of securing for the people a sanitary meat and milk supply.

Prof. Clarke, of the station, then addressed the meeting on the subject of the Montana Horse Breeders' Association, and requested the aid and co-operation of this association.

Dr. Thomson made some very important remarks upon the value of outside effort on the part of the members of this association in the matter of securing legislative aid in its furtherance.

It was moved by Dr. H. C. Gardiner and seconded by Dr. Thomson that Prof. Clarke be made an honorary member of this association. The motion was adopted unanimously.

It was moved by Dr. M. E. Knowles, seconded by Dr. Cary, that this association extend to the Horse Breeders' Association its heartiest support and good will.

An interesting discussion of the question of the effect of automobiles and their encroachment on the work of the veterinarian was indulged in by Dr. Simmons and called forth an interesting and spirited discussion by the members.

Upon motion meeting adjourned.

W. S. SWANK, Secretary.

INDIANA VETERINARY ALUMNI ASSOCIATION.

The thirteenth annual meeting was called to order at Indianapolis, Ind., April 1, 1909, by President T. A. Sigler.

President's Address.—One year ago when I was escorted to this chair by Drs. Yount and Mueller, I promised to favor you with the president's annual address; an address in behalf of the faculty and class.

Now, this is like the man that was hauling a load of potatoes up a hill. The end gate came out of the wagon and potatoes went helter skelter down the hill. He was a terrible man to swear, and his neighbor, who happened along, said: "John, how does it come you are not swearing?" Said John: "Can't do the case justice." So with me, gentlemen; I can't do the case justice.

I assure you it affords me no little pleasure to have the honor of filling the chair the past year, an honor that I felt was more than due me.

I am glad to come back to the I. V. C., our alma mater. I look ahead to our Alumni Association like a boy coming home to mother and eating the pumpkin pies she used to make. It is here we meet our old college classmates and, in their turn, get acquainted with the new ones.

A few days ago, while attending the inauguration of President McConnell of DePaw University, they introduced a speaker as an adopted son, who had an honorary degree from that college. In my case I feel that I am not adopted but an own son of the I. V. C., and while the junior in years of many present, and I look about and see the advancement of the college, I feel as an old son. You that are graduating to-day have as much advantage over me as I had over my father in a common school education.

I was glad, on opening the REVIEW, to see that the I. V. C. is classed as A No. 1, and why not? The state of Indiana has one of the best veterinary colleges in the United States. The fastest horse the world has produced was foaled in Indiana. The state has one of the largest importing establishments in the world. Some of the finest herds of cattle are bred in this great commonwealth.

The city of Indianapolis and the state of Indiana owe much to the faculty of the I. V. C., for they have devoted time and money to conduct an institution worthy of this our great city. On the other hand, the faculty owe much credit to their graduates who have gone out in the field of practice and followed their chosen profession in an honest and upright way, and in so doing have gained the confidence of the public. Those who are out

in practice may feel that they have not done anything for the advancement of veterinary science; they may not have performed any surgical operations of world-wide repute, or made any radical discoveries in veterinary science, yet, if they have practiced their profession in an honest and upright way, they have done much to its credit. It is these men who are to-day responsible for that great army of meat inspectors who are protecting the health and lives of the people of this great republic.

The recent graduate is like the wax in the moulder's hand; you are the architect of your own future; just what you make of yourself. We each represent the entire profession in our community, and we will be credited or discredited by our success or the failure, and the profession judged accordingly; so, remember at all times, that you have been given a title to defend; you are a guardian of the public health, as well as its wealth.

To the recent graduate who goes into meat inspection it matters not what breed the animal on the butcher's block was, whether Durham or Angus. But to you who go into breeding districts you must study the different breeds of live stock, at least the most popular of them, as you will be called upon to advise about them and will quickly endear you to the buyer and breeder, and it will be a nice little source of profit also. To be a success as a professional man, you must take an active part in the various organizations in the locality in which you live; you should be able to lend assistance to the agricultural interests as well as breeding. A good veterinarian in any locality is the same as good digestion is to man.

Some one has said a physician should have the eye of an eagle, the courage of a lion, the hand of a maiden, the heart of a dove; this should apply to the veterinarian who has the profession at heart.

It is needless for me to tell you that this is the grandest profession on earth, one in which you can gain for yourself a revenue while saving your client dollars, and last, but not least, relieve the dumb sufferer.

I thank you.

A long list of new members were elected.

Election of officers:

Drs. A. F. Nelson and Edgar Heiny were placed in nomination; the ballot was spread, and Dr. Heiny received 32 and Dr. Nelson 10; Heiny elected president.

Vice-President—Dr. F. F. Jacobs.

Secretary—E. M. Bronson.

Treasurer—Dr. Guy Baird.

Censors—Drs. Muecke, McConnell and Stout.

Dr. Mueller introduced an amendment in writing to Art. 7 of the by-laws as follows:

I move to amend Art. 7 to read as follows, beginning after the word honor, except the office of Secretary, which shall carry with it a salary of ten (\$10.00) dollars, beginning April 1, 1908. All words in conflict herewith to be stricken out.

(Signed) F. A. MUELLER,
F. A. MUECKE.

President was given a rising vote of thanks for his kindly labors for the year past. Motion to adjourn carried at 11.25 A. M.

Meeting called to order at 11.40 by President Heiny, who announced his committee on program and entertainment for the ensuing year: Drs. T. A. Sigler, of Greencastle; H. M. Hamilton, of Muncie; P. A. Bonebreak, of Cutler.

Dr. Mueller's amendment was called for and unanimously adopted as read.

Treasurer's report showed \$28.13 in the treasury April 1, 1909. Adopted.

Dr. Miller, of P. D. & Co., gave a very interesting talk on "Experimental Medicine" as carried on by his firm and the reasons for so doing. His talk was a compliment to our profession as well as instructive.

He said that "the veterinarian pays more attention to what he gives, how he gives it, and what result he gets than the average M. D." Here's hoping Dr. Miller will continue to think well of us as veterinarians and come before us often with his educational talks.

Nothing further coming before the association, with all wishing to get a lunch before coming back to the graduation exercises, a motion to adjourn was carried.

VERMONT VETERINARY MEDICAL ASSOCIATION.

The first regular meeting of the Vermont Veterinary Medical Association was called to order at 3.35 p. m. February 18, 1909, with the temporary officers which were elected October

15, 1908, officiating, Dr. A. H. H. Lewis, of Barre, occupying the president's chair, and Dr. F. C. Wilkinson acting as secretary.

Secretary's report, constitution and by-laws, certificates of membership as to form, material and association seal, members' report of legislative committee were each taken up in the order mentioned and disposed of.

Fifteen charter members were enrolled.

Bills to date were ordered paid as per reading.

Attorney's bill for services at Vermont Legislature, session 1908-09, was ordered to be laid on the table.

All moneys were ordered to be left in charge of the secretary-treasurer.

Certificates—Meeting ordered an assessment on the members to pay for the certificates, the secretary to notify the members when certificates are ready for distribution, the same to be sent on receipt of the price, which was fixed at four dollars (\$4) in advance.

Election of officers for 1909.

President—Dr. F. C. Wilkinson, Bellows Falls.

First Vice-President—Dr. A. H. H. Lewis, Barre.

Second Vice-President—Dr. W. H. Corey, Woodstock.

Secretary-Treasurer—Dr. F. W. Chamberlain, Burlington.

As members of the Executive Committee, the first to act as chairman, Drs. Stevenson, Prouty and Welsh.

Motion was made and carried that Hon. H. S. Wilson, Arlington, State Cattle Commissioner, be elected an honorary member of the association during his term of office.

Adjourned.

At a meeting of the executive committee directly following adjournment of the regular meeting, it was decided to hold the next meeting of the Association in Rutland, Vt., during the month of July, the date to be decided later. The secretary hopes to have a good literary programme at the July meeting.

FRANK W. CHAMBERLAIN,
Secretary.

B. A. I. VETERINARY INSPECTORS' ASSOCIATION OF CHICAGO.

The regular monthly meeting of the B. A. I. Veterinary Inspectors' Association was held at the Pathological Laboratory, Forty-second and Halsted streets, Chicago, Ill., April 9.

Mr. Frank Healy, a stock examiner in the Bureau of Animal Industry, gave a demonstration on the electrical conductivity of meat, blood and urine, showing a means whereby the sense of hearing may be used in detecting unsound meats.

Dr. A. L. Faunce was appointed delegate to the A. V. M. A. meeting in Chicago next September.

It was decided that the annual banquet, which was postponed last February on account of many of the members being away working on the eradication of foot-and-mouth disease, should be given next month. Following is the banquet committee: Drs. Day, Breininger, Harris, Colson and Young.

Dr. A. L. Faunce read a paper on Poorness, Emaciation and Immaturity. Drs. Holcomb, Siegmund, Paxson and Brimkamp participated in the discussion of the paper.

D. D. TIERNEY,
Secretary Treasurer.

THE REVIEW, in my opinion, is the best veterinary periodical ever published.—(*W. A. Scott, Veterinarian, Columbus, Ga.*)

IN paying our subscription to the AMERICAN VETERINARY REVIEW we feel that we get more than our money's worth.—(*C. H. Case, Veterinarian, Akron, Ohio.*)

THE Kansas City Veterinary College held its commencement exercises on the evening of March 30th in the New Casino, which was packed to its utmost to accommodate the many friends of the graduating class who were assembled to see their efforts crowned with the granting of diplomas, and to bid them good cheer as each started upon his life work in his chosen profession. The Rev. J. L. Thompson made the Faculty address. The musical numbers were furnished by college students. Dr. Robert C. Moore, president of the college, conferred upon the members of the class, which numbered 117, the degree of Doctor of Veterinary Science.

Dr. Louis D. Ryan, Emporia, Kansas; Dr. Dale E. Sawyer, Sikeston, Mo.; Dr. Samuel L. Stewart, Coffeyville, Kansas; Dr. Earl Stribling, Earlham, Iowa, and Dr. Theodore Tsalekoff, Chicago, Ill., were granted post-graduate certificates. The exercises were closed by the presentation of flowers, books and other gifts, and the extending of congratulations by the relatives and many friends present.

LAWS GOVERNING VETERINARY PRACTICE.

TABLE INDICATING THE REQUIREMENTS OF STATE LAWS GOVERNING THE PRACTICE OF VETERINARY MEDICINE THROUGHOUT THE UNITED STATES, WITH NAMES AND ADDRESSES OF EXECUTIVE OFFICERS.

Secretaries are requested to promptly notify the REVIEW office of any changes in the law, regulations, personnel or addresses of the officers of their respective Boards.

STATE.	Preliminary Education.	Professional Training.	Licensing Tests.	Registry.	Executive Officer and Address.	Administrative Board.	Remarks.
Illinois.	21 years of age. Good moral character.	No requirements.	Exam. diploma from recognized school accepted in lieu of exam.	With the Clerk or Recorder of the county of practice.	W. E. Savage, Spring-field.	State Board of Live Stock Commissioners.	
Indiana.	No requirements.	Graduation from a reputable school.	Exam. in case diploma is from college not recognized by S. Board.	With the State Board.	O. L. Boor, Secretary, Muncie.	State Board of Veterinary Examiners.	
Iowa.	21 years of age. Good moral character.	Graduation from recognized school.	Examination.	With the Recorder of county of residence.	H. E. Talbot, Secretary, Des Moines.	State Board of Veterinary Medical Examiners.	Reciprocity of license.
Kansas.	.....	.....	.....	.....	.....	.....	.....
Kentucky.	.....	.....	.....	.....	.....	.....	.....
Louisiana.	.....	.....	.....	.....	.....	.....	.....
Maine.	No requirements.	Graduation from a legally chartered school.	Examination.	With Sec. State Board and Clerk of Supreme Court of county of examination.	A. Joly, Secretary, Waterville.	State Board of Veterinary Examiners.	
Maryland.	No requirements.	Graduation from incorp. school.	Examination.	With the State Board.	W. H. Martinet, Sec., Baltimore.	Veterinary Medical Board.	
Massachusetts.	21 years of age.	No requirements.	Examination.	With the State Board.	E. W. Babson, Sec., Gloucester.	B'd Registration in Vet. Med.	
Michigan.	No requirements.	Graduation from recognized school.	Exam. or dip. from reg'd. school.	With Clerk of county of practice.	C. A. Waldron, Sec., Tecumseh.	State Veterinary Board.	Reciprocity of license.
Minnesota.	.....	Grad. from legally authorized school.	Examination.	With the State Board annually and with Clerk of county of practice.	M. H. Reynolds, Sec., St. Anthony Park, St. Paul.	Board of Vet. Med. Examiners.	
Mississippi.	.....	.....	.....	.....	.....	.....	.....

STATE.	Preliminary Education.	Professional Training.	Licensing Tests.	Registry.	Executive Officer and Address.	Administrative Board.	Remarks.
Missouri.	No requirements.	No requirements.	Examination.	With the State Board.	D. F. Luckey, Sec., Columbia.	Veterinary Examining Board.	
Montana.	.....	.....	.....	.....	.....	.....	.....
Nebraska.	No requirements.	No requirements.	Examination.	With State Board.	A. T. Peters, Lincoln.	State Board of Vet. Examiners.	
Nevada.	.....	.....	.....	.....	.....	.....	.....
New Hampshire.	No requirements.	No requirements.	Exam. or grad. from a lawfully constituted school.	With the State Board.	R. I. Twombly, Secretary, Alton.	State Board of Veterinary Examiners.	
New Jersey.	21 years of age. Good moral character. Competent school education.	Grad. from legally incorp. school having at least three year course approved by Board.	Examination and practical tests.	With the State Board and with the Clerk of the Court of Common Pleas.	Wm. Herbert Lowe, President, Paterson.	State Board of Veterinary Medical Examiners.	Examinations held at State House, Trenton, Jan. and June.
New Mexico.	.....	.....	.....	.....	.....	.....	.....
New York.	Graduation from a four year secondary school course subsequent to 8 years elementary preparation.	Graduation from a registered school.	Examination.	With the Clerk of the county of practice.	Chas. F. Wheelock, Chief of Examinations Division N. Y. State Education Department, Albany.	Examinations Division of New York State Education Department.	
North Carolina.	No requirements.	No requirements.	Examination.	With Sec. State Bd. and Sup. Ct. of c'ty of residence.	Tait Butler, Sec., Raleigh.	Board of Veterinary Medical Examiners.	
North Dakota.	No requirements.	Graduation from a legally authorized school.	Examination.	With Board annually.	S. P. Smith, Pres., Cando.	State Board of Veterinary Medical Examiners.	
Ohio.	No requirements.	No requirements.	Examination. Diploma from a reputable school accepted in lieu of examination.	With the Secretary of the State Board.	David S. White, Columbus.	Board of Veterinary Examiners.	

STATE.	Preliminary Education.	Professional Training.	Licensing Tests.	Registry.	Executive Officer and Address.	Administrative Board.	Remarks.
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STATE.	Preliminary Education.	Professional Training.	Licensing Tests.	Registry.	Executive Officer and Address.	Administrative Board.	Remarks.
Oklahoma.	.....	.....	.....	With the Clerk of the county or practice.	William Lean, Secretary, Portland.	State Veterinary Medical Board.	.....
Oregon.	No requirements.	No requirements.	Exam. Dip. school good standing in lieu of exam.	With the Clerk of the county or practice.	William Lean, Secretary, Portland.	State Veterinary Medical Board.	License covers 4 yrs; renewed without exam.
Pennsylvania.	21 years. Good moral char. Compt'n school education.	Graduation from a legally incorporated school.	Examination.	With State Board annually.	W. Horace Hoskins, Secretary, Philadelphia.	State Board of Veterinary Medical Examiners.	.....
Philippines.	.....	.....	.....	.....	.....	.....	Law promulgated by Military Governor in 1902.
Porto Rico.	.....	Graduation from school of good standing, or examination by Board.	Graduation or examination.	Present certified foreign diploma and receive corresponding degree from Univ. of Havana.	.....	Board composed of dean of Medical Society, two vet. surgs. and two M. D's.	.....
Rhode Island.	.....	.....	.....	.....	.....	.....	.....
South Carolina.	.....	.....	.....	.....	.....	.....	.....
South Dakota.	.....	.....	.....	.....	.....	State Board of Examiners.	.....
Tennessee.	Good moral character.	No requirements.	Examination or graduation from a recognized school.	With S. Board and Clerk of Court of county of resid.	Geo. R. White, President, Nashville.	State Board of Veterinary Medical Examiners.	.....
Texas.	.....	.....	.....	.....	John Crust, Salt Lake City.	.....	.....
Utah.	.....	.....	.....	.....	.....	.....	.....
Vermont.	.....	.....	.....	.....	.....	.....	.....
Virginia.	No requirements.	No requirements.	Examination.	With Sec. of the State Board.	H. Bannister, Sec., Roanoke.	State Board of Vet. Med. Exam.	.....
Washington.	.....	.....	Examination.	Board and County Clerk.	S. B. Nelson, Secretary, Pullman.	State Board of Vet. Med. Exam.	.....
West Virginia.	.....	Graduation from recognized school.	Examination.	.....	.....	.....	.....
Wisconsin.	.....	.....	Examination.	With Register of Deeds in county of practice.	Louis P. Helm, Sec., Baraboo.	State Board of Veterinary Medical Examiners.	.....
Wyoming.	.....	.....	.....	.....	.....	.....	.....

NEWS AND ITEMS.

A FINELY appointed veterinary hospital has been opened at East Orange, N. J., by Dr. T. Earle Budd.

MINNESOTA has 129 graduate and 105 non-graduate veterinarians licensed to practice in that commonwealth.

DR. RICHARD P. LYMAN and family have returned from Kansas City, Mo., to Hartford, Connecticut, for the summer.

ABOUT 50 veterinarians took the Civil Service examination for Veterinary Inspector in the B. A. I., at Kansas City, April 13th.

THE REVIEW fills the long felt want of one who cannot get away to brush up each year.—(*C. M. Henderson (McGill University), Vancouver, B. C.*)

THE St. Joseph Veterinary College, St. Joseph, Mo., graduated 21 veterinarians this year. The commencement exercises were held March 19, 1909.

THE United States College of Veterinary Surgeons held its commencement exercises at Gonzaga Hall, Washington, D. C., on Thursday evening, April 15, 1909.

INCLOSED please find express money order for three dollars, my subscription to the REVIEW. We must have it, that's all.—(*J. A. McCrank, D.V.S., Plattsburgh, N. Y.*)

DR. G. A. REVERCOMB, for several years located at Ronceverte, W. Va., has moved to Okmulgee, Oklahoma, to engage in practice in that new and rapidly growing city.

THE Massachusetts Veterinary Association celebrated the twenty-fifth anniversary of its organization at Young's Hotel, Boston, on Wednesday evening, April 28, 1909.

F. H. ANDERSON (veterinarian) has been re-elected city treasurer of Evanston, Ind., with a plurality of 269 votes, after a hard-fought battle between the eight candidates for the office in the field.

E. F. JARREL, M. D. C., on the 17th day of March, was appointed State Veterinarian of Texas, to succeed Dr. W. H. Langley, resigned. Dr. Jarrel will establish headquarters at Ft. Worth, Texas.

DR. EMILIO LUACES, a graduate of the Kansas City Veterinary College, 1908, has been appointed Chief Veterinarian of the Experiment Station, Santiago de Las Vegas, Cuba, to succeed Dr. N. S. Mayo.

ANY veterinarian who is specially interested in sanitary work can obtain a copy of the proceedings of the Washington meeting of the Inter-State Association of Live Stock Sanitary Boards by communicating with Dr. Chas. E. Cotton, Secretary, Minneapolis, Minn.

THE first annual banquet and ball of the Veterinary Medical Association of the Colorado State Agricultural College was held at Masonic Temple, Fort Collins, Colorado, April 9, 1909. Dr. G. H. Glover filled the rôle of Toastmaster in a very acceptable manner.

THE Atlantic City Horse Show, held on one of the immense piers of that famous New Jersey seaside resort, during the second week in April, was a grand success from every viewpoint. Veterinarian Budd, who was one of the judges, reports the horse outlook as decidedly encouraging.

OWING to the change of date of the meeting of the American Veterinary Medical Association, the date of the annual meeting of the Inter-State Association of Live Stock Sanitary Boards, which also convenes in Chicago, has been changed to September 13, 14 and 15.

THE commencement exercises of the Chicago Veterinary College were held on April 6, 1909. The occasion was an enjoyable and important one, as by it the school gave birth to 107 new sons. Gold medals were awarded to five and prizes to ten competitors, and the honor list contained 29 names.

DURING the month of February, Dr. W. G. Clark, Marinette, Wis., read a paper on the relation between bovine and human tuberculosis at the farmers' short course of the Marinette County Agricultural School and also at the Menominee, Mich., Agricultural School a couple of weeks later. The Medical Society has requested Dr. Clark to present a paper at its meeting this month.

FORTY-ONE young men received their diplomas from the Indiana Veterinary College at its commencement exercises held April 1, 1909. Addresses were made by Drs. Geo. H. Roberts, Fred. A. Muller, W. B. Craig, E. O. Chattan and Helen Knable of the faculty, and Otto Wagner, assistant secretary of the college. A new building to cost \$30,000 is now in course of erection.

THE General Assembly of South Carolina has just passed an act which places that commonwealth among those states requiring the tuberculin test of cattle for breeding and dairy purposes. The new law also allows compensation for tuberculous and glandered animals. Dr. M. Ray Powers, State Veterinarian, considers that this feature will be quite an advantage in live stock sanitary work in South Carolina.

DR. W. H. DALRYMPLE, Baton Rouge, La., is looking forward with a great deal of pleasure to a trip across the ocean this summer to visit his old home and those of his relatives and friends who are left to him. He sails from New York May 29th by an Anchor Line steamer for Glasgow and will return to America in time for the meeting of the A. V. M. A. at Chicago in September. Dr. Dalrymple hopes to be able to run over to Paris this trip to see Professor Liautard.

A SPECIAL committee of the Bureau of Animal Industry, consisting of Drs. M. A. Farrington, Assistant Chief of Bureau, and R. W. Hickman, Chief of the Quarantine Division, visited the various veterinary colleges in the United States during the latter part of March and the beginning of April. They made careful inquiries into the details of matriculation, methods of instruction, qualifications of teachers and all other matters, to ascertain how completely the colleges have complied with the requirements of the B. A. I. Circular No. 133.

A BILL has passed the senate of the Minnesota legislature providing for the tuberculin testing of all pure-bred cattle sold for breeding purposes. It has also passed a measure requiring druggists and others selling either tuberculin or mallein to report each sale to the State Live Stock Sanitary Board.

The Dairy and Live Stock Committee of the Minnesota legislature now in session has reported out as a direct committee bill a measure which calls for a permanent annual appropria-

tion of \$70,000 a year for the Sanitary Board work in connection with tuberculosis and glanders. This is in addition to a permanent annual appropriation of \$19,000 general sanitary work. Special precautions are taken in this bill to prevent tampering with the tests.

A GREAT WESTERN MEETING.—The annual meeting of the Missouri Valley Veterinary Association will be held in Omaha June 16 and 17th. A program is presented which will be filled to repletion with good food for a mental feast. The committee on local arrangements are making an effort to arrange and plan local affairs so as to make it the most valuable meeting ever held by that association.

The meeting will be held as usual in the city hall. A business meeting will take a large part of the forenoon meeting of the first day. Papers and discussions will occupy the afternoon and the annual banquet, to which, the local committee say, "This year the ladies are invited," will be held the evening of the first day.

The forenoon of the second day will be devoted to papers, reports of cases, and discussions of same. In the afternoon there will be ample clinic to last until late. The veterinarians of Omaha and Council Bluffs have joined hands and will see to it that there will not only be an abundance, but quality, in the clinic, cases for operation, for diagnosis, and some showing results of previous operations. Some cases presented at last year's clinic will again be in evidence.

COMMENCEMENT EXERCISES OF THE ONTARIO VETERINARY COLLEGE.—Owing to the unavoidable absence of the Minister of Agriculture, President Falconer of the University of Toronto presided at the recent commencement exercises of the Ontario Veterinary College. Short addresses of a congratulatory nature were delivered by the chairman, Dr. Andrew Smith, former principal; Dr. Brodie, of the University of Toronto; President Falconer, and Principal E. A. A. Grange of the college. Previous to the actual closing the graduates presented the college with a picture of the professors and class.

A feature was the fact that all of the graduates were students who had returned to finish their course. Formerly the institution only gave a two-year course. When the Ontario Government took over the college in July last it was decided to have a three-year term. So these students, although they had received

their diplomas, came back to get their degree from the college as a government institution. This fact accounts also for the smallness of the class, which was composed of seventeen men, but, as in former years, they have come from all parts of the United States and Canada.

In the course of his opening address, President Falconer announced that a new degree, to be known as bachelor of veterinary science, would be established. He thought it would give prestige, as it would lead to the doctorate degree.

DR. C. H. STANGE, DEAN OF THE VETERINARY FACULTY, IOWA STATE COLLEGE.—Dr. C. H. Stange has been elected Dean of the Veterinary Faculty of the Iowa State College to succeed Dr. J. H. McNeil, resigned. For six months the president and the trustee committee of the college have been making extensive and earnest inquiry for the best man for the deanship made vacant by the resignation of Dr. McNeil. The faculty committee of the board of trustees, together with the president and Dean Curtiss, to whom the matter had been referred with power, came to the unanimous conclusion that of all available men they could make no better selection than that of Dr. Stange.

Dr. Stange was the honor student of the college the year of his graduation and has pursued graduate studies since, especially in bacteriology and histology, in the University of Chicago, and has carried the subjects of pathology, histology and theory and practice as a member of the faculty of the veterinary division of the Iowa State College. During the current college year he has largely carried the administrative responsibilities of the division. Dr. Stange has proven himself a thoroughly capable man. It is the belief of those in charge of the interests of the college that they have made a happy selection. Dr. Stange is thoroughly scientific in his training and methods and at the same time thoroughly practical. He is a man of excellent executive ability and a good judge of men, much liked by the students and his associates, and has before him a very promising future.

The veterinary division at the college now numbers 130 students. Plans have been approved by the board of trustees and are being submitted to the legislature for endorsement for the erection from the millage fund of a \$150,000 building with equipment for the veterinary division. Adequate support is being asked from the legislature that this and other departments of the college may be adequately provided for the increased demand for faculty and equipment.

While Dr. Stange is but twenty-eight years of age, it is remembered that men as young or younger than he have taken similar responsibilities and have developed with their work to positions of leadership. In this connection such men as Victor C. Vaughn, Dean of the Department of Medicine at Ann Arbor; Dean Curtiss, of Ames; Dean Bailey, of Cornell, may be mentioned as men who quite young in life have been placed under large responsibility and have made good.

NEW LEGISLATION IN PENNSYLVANIA.—The legislature of Pennsylvania adjourned April 15. Not much general legislation of veterinary sanitary importance was enacted. The few new provisions of law that were made will be discussed later.

The legislature appropriated \$614,400 for what might be termed veterinary purposes. This amount includes \$374,400 for the use of the State Livestock Sanitary Board and for salaries of officers and employees of the Veterinary Division of the Department of Agriculture; \$90,000 deficiency to pay for work done during the fiscal year which will end May 31, 1909 (including expenses incident to the outbreak of foot-and-mouth disease), and \$150,000 for the Veterinary Department of the University of Pennsylvania.

The appropriation to the State Livestock Sanitary Board embraces items for indemnity to owners of condemned animals, for the enforcement of quarantine laws, for the support of the state meat inspection service, for dairy inspection work, for the administration of the horse breeding law, for the maintenance of the laboratory and experimental farm for the investigation of the diseases of animals, etc.

The appropriation to the Veterinary School embraces an item of \$100,000 for construction and an item of \$50,000 for current expenses.

While these appropriations may appear to be small, when considered with reference to the investment of \$180,000,000 in domesticated animals in Pennsylvania that is conserved by them, and the vast importance of veterinary sanitary work and veterinary education in their relations to the agricultural and public health interests of the Commonwealth, the total is, nevertheless, such as to place a great burden of responsibility on the veterinary profession of the state.

The veterinarians of Pennsylvania have for a number of years had some opportunity to demonstrate to the public the im-

portance and the value of the work they are engaged in, and it is because they have shown the worth of their work that they are now to have a larger opportunity.

Experience justifies the expectation that the profession of the old Keystone state will rise equal to the responsibilities that are placed upon it, and the hope that at the end of the next fiscal period the benefits from the expenditures made will be so apparent that there will be no regret that they were authorized.

BANQUET IOWA STATE COLLEGE.—Two hundred and fifty veterinarians assembled for the fifth annual alumni-senior banquet of the Veterinary Medical Society of the Iowa State College, held at the Chamberlain Hotel, Des Moines, on March 12. The Veterinary Department of the college turned out as a unit, and the attendance was still further augmented by the return of many of the alumni of the institution, and goodly number of invited guests who mingled with students and faculty in the spacious hotel parlors. Here the reception committee saw to it that no man failed to meet every "old grad" and "young prep" present. It was an enthusiastic gathering of veterinarians, students and friends of the profession.

Following the elaborate seven-course dinner a program of formal and impromptu toasts was carried out. Dr. R. R. Dykstra of the veterinary faculty of the college acted as toastmaster. Hon. W. J. Dixon, president of the board of trustees of the college, spoke on "The Relation of the Board of Trustees to the Veterinary Department." His announcement of the certainty of a new \$150,000 building for the Veterinary Department in the immediate future was received with rounds of applause by the enthusiastic students. Prof. Curtiss, Dean of the Department of Agriculture of the college, spoke on "The Veterinarian's Calling." He dwelt on the great and constantly widening scope of the veterinarian's work, and on the future of men who would prepare themselves by a thorough college training for entrance into this work. His remarks were received with deep interest by all assembled. Dr. E. E. Faville, of Des Moines, spoke entertainingly on the subject, "Inside *vs.* Outside." Dr. N. N. Crawford spoke for the senior class on the subject of "Aims and Ames." Dr. English, of the 2d U. S. Cavalry, gave a pithy address on "The Veterinarian in the Far East." Dr. English's experience while with his regiment in the Philippines enabled him to both interest and instruct his audience with a

description of disease conditions in the Islands, and with a discussion of the methods of eradication employed in dealing with the more prevalent types. He also pictured very vividly the life of a veterinarian in the Islands by the relation of incidents and conditions encountered in actual service. Other speakers who responded when called upon were: Lieut. Gov. Clarke, Hon. G. C. White, Hon. E. M. Wentworth, Dean E. W. Stanton.

Dr. C. H. Stange, the Dean of the Veterinary Department, who has attended every banquet of the society, said that the one of this year was by long odds the most successful ever held. Originally intended as a "get together affair" for students and faculty, it has developed into an annual meeting of state-wide interest among the veterinary profession.

SANITARY WORK IN MINNESOTA.—A group of Minneapolis city dairymen have been fighting the Minneapolis test ordinance for a number of years and have been repeatedly defeated. This winter they attempted to accomplish their purpose by attacking the whole tuberculosis and tuberculin test work of the state and indirectly the State Live Stock Sanitary Board.

The matter was referred by the Senate Committee to its Dairy and Live Stock Committee with instructions to conduct such tests and investigate as it deemed necessary and important and report back to the senate.

The report adopted is a complete vindication for the Sanitary Board so far as its past record is concerned, besides containing some interesting comments concerning the tuberculosis question and the tuberculin test. It is as follows:

The committee to whom was referred resolution on page 5 of the Senate Journal, February 5, concerning the Live Stock Sanitary Board and the tuberculin test, beg leave to offer the following report:

There is filed with the committee a full statement giving number of animals killed on account of tuberculosis and the amount due to each owner together with name and address.

In addition is filed a copy of the minutes of the board, showing that its accumulated deficit was incurred only after a conference with and on the advice of His Excellency Governor J. A. Johnson, the Attorney-General, State Auditor and the State Treasurer's office.

As called for by the resolution the board has ceased (pending investigation) to incur any further obligations for animals affected with tuberculosis.

Concerning the tuberculin test: In response to the request of the committee, the Live Stock Sanitary Board tuberculin tested twenty-five head of cattle owned by Swift & Company, which were passed by the tuberculin test as free from tuberculosis.

The application and the entire course of the tuberculin test were carefully watched by a representative appointed by the committee.

In addition were also tuberculin tested by the board nineteen head of cattle owned by Senator B. E. Sundberg. The result of the tuberculin test showed fourteen of the nineteen animals to be affected with tuberculosis. The twenty-five cattle owned by Swift & Company and passed by the tuberculin test as free from tuberculosis and the fourteen cattle owned by Senator B. E. Sundberg, which had reacted to the tuberculin test, were killed under the supervision of the committee.

The post-mortem examination on the twenty-five non-reacting "Swift" cattle showed no evidence of tuberculosis, while the fourteen reacting cattle owned by Senator B. E. Sundberg showed well-marked lesions of tuberculosis, some of the animals being badly affected, the lungs and other organs presenting a repulsive appearance.

These results show that tuberculin is a reliable diagnostic agent.

The records of the tuberculin test of the two lots of cattle and the post-mortem of findings are submitted herewith as part of this report.

Your committee would respectfully report that it is convinced the tuberculin test is accurate and reliable when intelligently and honestly applied, and the only means in a very large majority of cases whereby tuberculous cattle may be detected. We are of the opinion that the legitimate use of the tuberculin test should be encouraged by the state.

Further, your committee find that the deficit which has accumulated is in accordance with law as we understand the term.

It is recommended that the resolution ordering the discontinuance by the board of further tuberculin and mallein tests be rescinded.

BANQUET OF THE NEW YORK-AMERICAN VETERINARY COLLEGE (Vet. Dept., N. Y. U.), held at Reisenweber's on the evening of April 14th, was one of the best that has been held in some years. The attendance for several reasons was small, but de-

ficiency in numbers was more than compensated for by the character of the addresses that were made in response to the several toasts. President Budd acted as toastmaster, and in his usual happy manner made everyone feel at home. Dr. Munn (M.D.), of the University Council, responded to the toast, "The General Alumni of New York University," and during his remarks gave some good advice to the young graduates. Dean Coates, in his toast, "The Ladies," eclipsed all previous records, which, to those who have heard him from year to year on various topics, means a great deal. It was witty and humorous. He said in part the innocent cause of all evils to mankind is woman as she stepped forth in the Garden of Eden with the apple, and compared ladies to flowers, describing their loveliness and showing the magnetic qualities of each. He told of the various kinds of women, especially of the modern girl, the dudish girl, the girl who makes a man fall in love, the kissable girl, and the one who empties a man's pocket. He presented the æsthetic wardrobe, the peculiar ideas about dress, and the effect on her nervous system. Then described the moonlight sails, the winning smiles, the hours spent on her toilet, and the verses she would write for the object of her dreams, how sleep deserted her and when food had no attraction. Prof. Robertson, on "The Faculty," spoke very feelingly and his remarks were enjoyed by all present. Prof. Tompkins, of the Law School, after one or two amusing stories, departed from his usual lighter vein and gave some excellent advice to the young men, in which he advised that men of the veterinary profession should "get into politics." He explained by that, that he did not mean "run for office," but to avail themselves of their citizenship in the affairs of their local government, and to live in a manner befitting the best citizens in the community. He was followed by the Hon. Raymond A. Pearson, Commissioner of Agriculture of the State of New York, whose talk on "The State Department of Agriculture and the Veterinarian" was a rare treat. The Commissioner, in his interesting manner, imparted much information on the subject nearest his heart, agriculture, pointing out the fact that agriculture was the foundation of everything in our country, that the live stock industry was an essential to agriculture, and that veterinarians were essential to the live stock industry. He referred to the work being done for the suppression and eradication of tuberculosis, and some of its drawbacks, which his department hope to overcome by suitable measures, some of which are now before the present legislature.

Dr. Hollingworth, responding to the toast, "The Veterinarian a Public Benefactor," certainly justified the subject in his remarks, showing the very many ways in which the veterinarian may fill that rôle. Dr. Gill responded to a toast on "The Future" by addressing the graduating class on what use to make of *their* future. Dr. Winchester left to catch a train before opportunity had been afforded the toastmaster to call upon him, but Drs. Howard and Hoskins responded in their usual excellent form; after which various members of the graduating and recent classes spoke. This was the thirtieth annual dinner of the Alumni Association that Dr. Hoskins had attended without a break. Dr. DeVine stated that on hearing Dr. Hoskins mention the fact that he had not missed a single dinner, on the occasion of *his first* dinner, in 1898, he made a resolution, to make a similar record for himself, and has not missed attending one of the functions during the eleven years since that time. He expressed regret that the other forty-five members of his class had not done likewise.

The toastmaster called for a standing toast to our "Past Dean," Prof. Liautard, and when the gentlemen had resumed their seats a member of the Alumni Association called for a standing toast to our "New Dean," Prof. Coates.

OPTIMISM BY DR. HOLLINGWORTH AT THE ITHACA BANQUET.—It is needless for me to say that I am very glad to be here this evening at your annual banquet, even if I did have to encircle the globe to get here. I see by the program that I am to respond to the toast "Optimism," which means the doctrine that everything happens for the best. Now, it is a question whether a veterinarian can call himself an optimist when he takes into consideration the horseless vehicles that are so popular at present. I know very often I feel very pessimistic, but to be serious in regard to the automobile, I am of the opinion that the coming of this method of conveyance has caused a new idea of thought or stimulated an old one, and that is—sanitary or preventive medicine, not only with the practicing veterinarian, but with the veterinary colleges.

I believe there is a great field to be developed. The health and wealth of our country demand it. What better record can a community have than a low death rate? How is that brought about but through the energy of its health department? Now, here is just where we can look on the bright side. The veterina-

rian, by being proficient along these lines, will be able to check the causes of death in the human race due to diseased meat and polluted milk, and by so doing he is naturally going to be a public benefactor and will receive the recognition due him.

Take the wealth of our country in regard to live stock. It runs up into the billions, and here again the veterinarian will be in a position to save this country untold amount of money by his knowledge in diagnosing the contagious and infectious diseases which our domestic animals are subject to. I believe there will be laws placed on the statute books in the near future which will create offices for veterinary sanitarians, in fact, the Commissioner of Agriculture as much as said so in regard to meat and milk inspection, which is likely to be agitated in Albany, and I want to tell you, gentlemen, that, when Governor Hughes appointed R. A. Pearson commissioner, it was one of the best things that ever happened to the veterinary profession in this state. I know we have a friend. I heard him say that his wish was to have an efficient veterinary service in his department. Is not that the bright side?

But this cannot be accomplished without we veterinarians live up to the principles of honesty. Be honest in all your convictions, whether it is your client, friend or enemy, when an opinion is required. Do not always look for that almighty dollar. Do not become obligated to anyone. Do not get into the clutches of anyone. When your honor is lost you might as well give up. The person who bought you will at the opportune time, if you do not decide according to his thinking, make it very unpleasant for you. Whatever you get, get it honestly and pay likewise.

Work for the interests of your client, whether it be an individual, corporation, municipality or state. By so doing, you cannot but be looked upon as an honored citizen and an honor to the veterinary profession, which many of you are about to take up for a livelihood. Get the confidence of the public so that when you make an assertion or sign a document, they can rely on its virtue.

A man's good will is better than his enmity. Do as much for the poor man as you would for your rich client. It is no disgrace to be poor, but very inconvenient. Do unto others as you would like them to do unto you. Keep yourself under self-control. Cultivate your disposition. Knowing your weakness, remedy it. By all means, be a gentleman. Remember temptation is the root of all evil.

There is one place where optimism should reign supreme and that is in your home. If you feel the reverse when you place your foot on your threshold, cast it to the winds. We are only here a short time—born to-day, somewhere else to-morrow. Life is too short to encourage pessimism. You want to remember that when that woman decided to cast her lot and become your helpmeet it was your duty to see to it that she had all the conveniences, encouragement and kindness that you can afford, and, to my way of thinking, if such is not carried into effect, that man is a most miserable man.

You want to do as near right as you can and you want to do as near right as you know how and to continue so to the end, and when the end comes, if you are censured, it will be no fault of yours. Now, in closing, I want to say that you must remember that here in Ithaca is located the New York State Veterinary College, and it is up to the alumni of this college to put their shoulders to the wheel and to use all honest efforts to help the director of this school to make it *the* veterinary college of this continent. I am not an alumnus of it, but I am a convert. I have come to the conclusion that an institution of this kind needs more money to carry out its plans than that derived from its students. Now, gentlemen, if these few words are put into effect, I think you will be a success.

SURVIVAL OF THE FITTEST.—Only one oyster embryo out of every 5,000,000 produced grows up through all the successive stages of youth to the adult state. Even in animals which produce a small number of young there is great destruction, and taking all the individuals into consideration, only a single pair of young arrive at maturity to replace their parents. There is no exception to the rule that every organic being naturally multiplies at so high a rate that if not destroyed the progeny of a single pair would soon cover the earth. The elephant is reckoned the slowest breeder of known animals; it commences to breed at thirty years of age, dies at 100, and has six young ones in the interval. After 750 years, supposing all the offspring of a single pair fulfilled the rule and were not destroyed in an untimely way, there would be nearly 19,000,000 elephants alive descended from the first pair.—(*Sir Ray Lankester in the London Telegraph.*)

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VETERINARY MEDICAL ASSOCIATION MEETINGS.

In the accompanying table the data given is reported by many Secretaries as being of great value to their Associations, and it is to be regretted that some neglect to inform us of the dates and places of their meetings.

Secretaries are earnestly requested to see that their organizations are properly included in the following list :

Name of Organization.	Date of Next Meeting.	Place of Meeting.	Name and Address Secretary.
American V. M. Ass'n.....	Sept. 7-10, 1909.	Chicago.....	R. P. Lyman, Hartford, Conn.
Vet. Med. Ass'n of N. J.....	July 14-15, 1909.	Atlantic City.....	W. Herbert Lowe, Paterson.
Connecticut V. M. Ass'n.....	.....	New Haven	B. K. Dow, Willimantic.
New York S. V. M. Soc'y.....	Sept., 1909	Ithaca	J. F. De Vine, Goshen.
Schuylkill Valley V. M. A.....	June 16, 1909	Reading	W. G. Huyett, Wernersville.
Passaic Co. V. M. Ass'n.....	Call of Chair.....	Paterson, N. J.	H. K. Berry, Paterson, N. J.
Texas V. M. Ass'n.....	Call Exec. Com.....	Boston.....	R. P. Marsteller, College Sta.
Massachusetts Vet. Ass'n.....	Monthly.....	Bangor	Wm. T. White, Newtonville.
Maine Vet. Med. Ass'n.....	.....	Ottawa	A. Joly, Waterville.
Central Canada V. Ass'n.....	.....	Saginaw	A. E. James, Ottawa.
Michigan State V. M. Ass'n.....	Jan. 25-26, 1910.	141 W. 54th St.	Judson Black, Richmond.
Alumni Ass'n, N. Y.-A. V. C.....	.....	Bloomington.....	L. L. Glynn, N. Y. City.
Illinois State V. M. Ass'n.....	July 13, 1909 .....	.....	J. H. Crawford, Harvard.
Wisconsin Soc. Vet. Grad.....	.....	.....	S. Beattie, Madison.
Illinois V. M. and Surg. A.....	Jan. and Aug.	Louisville.....	W. A. Swain, Mt. Plaski.
Vet. Ass'n of Manitoba.....	Not stated.....	Winnipeg	F. Torrance, Winnipeg.
North Carolina V. M. Ass'n.....	.....	Raleigh	Adam Fisher, Charlotte.
Ontario Vet. Ass'n.....	1st Wed. ea. mo.	.....	C. H. Sweetapple, Toronto.
V. M. Ass'n, New York City.....	.....	141 W. 54th St.	W. Reid Blair, N. Y. City.
Ohio State V. M. Ass'n.....	.....	Columbus.....	Sidney D. Myers, Wilmington
Western Penn. V. M. Ass'n.....	.....	Pittsburgh.....	F. Weitzell, Allegheny.
Missouri Vet. Med. Ass'n.....	.....	St. Joseph.....	F. F. Brown, Kansas City.
Genesee Valley V. M. Ass'n.....	.....	Rochester.....	J. H. Taylor, Henrietta.
Iowa Veterinary Ass'n.....	July 14-15	Ft. Dodge.....	H. C. Simpson, Denison.
Minnesota State V. M. Ass'n.....	.....	Stillwater	G. Ed. Leech, Winona.
Pennsylvania State V. M. A.....	.....	Philadelphia.....	F. H. Schneider, Philadelphia.
Keystone V. M. Ass'n.....	Monthly.....	Philadelphia.....	S. Lockett, Glenolden.
Colorado State V. M. Ass'n.....	June, 1909	Denver	M. J. Woodliffe, Denver.
Missouri Valley V. Ass'n.....	June 16-17, 1909.	Omaha	B. F. Kaupp, Fort Collins, Colo.
Rhode Island V. M. Ass'n.....	Jan. and June	Providence	T. E. Robinson, Westerly.
North Dakota V. M. Ass'n.....	Call of Sec'y	Fargo	C. H. Martin, Valley City.
California State V. M. Ass'n.....	.....	San Francisco	J. J. Hogarty, Oakland.
Southern Auxiliary of California State V. M. Ass'n.....	.....	Los Angeles	J. A. Edmonds, Los Angeles.
South Dakota V. M. A.....	Jan. Apl. Jy. Oct.	Sioux Falls	J. A. Graham, Sioux Falls.
Nebraska V. M. Ass'n.....	2d Tues. in Jy. '09	Grand Island	H. Jensen, Weeping Water.
Kansas State V. M. Ass'n.....	.....	Topeka	B. Rogers, Manhattan.
Ass'n Médécale Veterinare Francoise "Laval",	1st and 3d Thur. of each month	Lec. Room, Laval Un'y, Mon.	J. P. A. Houde, Montreal.
Province of Quebec V. M. A.....	.....	Mon. and Que.	Gustave Boyer, Rigaud, P. Q.
Kentucky V. M. Ass'n.....	.....	Not decided	D. A. Piatt, Lexington.
Washington State Col. V. M. A.....	1st & 3d Fri. Eve.	Pullman	R. G. McAlister, Pullman.
Indiana Veterinary Association.....	January, 1910	Indianapolis	E. M. Bronson, Indianapolis.
Louisiana State V. M. Ass'n.....	.....	St. P. Minneap.....	E. P. Flower, Baton Rouge.
Twin City V. M. Ass'n.....	.....	.....	S. H. Ward, St. Paul, Minn.
Hamilton Co. (Ohio) V. A.....	.....	Athens	Louis P. Cook, Cincinnati.
Mississippi State V. M. Ass'n.....	Nov. 16-17, 1909.	Philadelphia	J. C. Robert, Agricultural Col.
Georgia State V. M. A.....	.....	Philadelphia	P. F. Bahnsen, Americus.
Soc. Vet. Alumni Univ. Penn.....	June, 1909	Hampton	B. T. Woodward, Wash'n, D. C.
Virginia State V. M. Ass'n.....	July 9, 1909 .....	.....	W. G. Chrisman, Charlo'svle.
Oklahoma V. M. Ass'n.....	.....	Jersey City	W. H. Martin, El Reno.
Veterinary Practitioners' Club.....	Monthly.....	514-9th St., N. W.	A. F. Mount, Jersey City.
Vet. Ass'n Dist. of Columbia.....	3d Wed. ea. mo.	Chicago	M. Page Smith, Wash., D. C.
B. A. I. Vet. In. A., Chicago.....	2d Fri. ea. mo.	Chicago	D. D. Tierney, Chicago, Ill.
Arkansas Veterinary Ass'n.....	.....	.....	Horace E. Rice, Little Rock.
York Co. (Pa.) V. M. A.....	.....	York, Pa.	E. S. Bausticker, York, Pa.
Philippine V. M. A.....	.....	.....	Chas. G. Thomson, Manila.
Montana State V. M. A.....	.....	Helena	W. S. Swank, Miles City.
Veterinary Ass'n of Alberta.....	.....	.....	C. H. H. Sweetapple, For.
Chicago Veterinary Society.....	2d Tues. ea. mo.	Chicago	Saskatchewan, Alta., Can.
Maryland State Vet. Society.....	.....	Baltimore	J. M. Parks, Chicago.
St. Louis Soc. of Vet. Inspectors.....	1st Wed. fol. the 2d Sun. ea. mo.	St. Louis	H. H. Counselman, Sec'y.
Washington State V. M. A.....	.....	Seattle	Wm. T. Conway, St. Louis, Mo.
Vermont Vet. Med. Ass'n	July	Rutland	J. T. Seely, Seattle.
			F. W. Chamberlain, Burlington

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THE ART OF CAPSULATING is the title of a little booklet published by H. PLANTEN & SON, Brooklyn, N. Y., and is a very interesting little brochure indeed. It begins with the invention of gelatine capsules in 1833 by Mr. A. Mothes, a French pharmacist. They were known to the medical profession for many years as "CAPSULES GELATINENSES DE MOTHES." Official notice of this important discovery appears in two reports to the "*Academie Royale de Medicine*," one of May 13, 1834, and the other of February 28, 1837. Notices and descriptions of the process of making them appeared also in many French journals of pharmacology, dictionaries, etc., up to 1866. "*The German Pharmacopoeia*," in the last edition, describes and gives formulas for making gelatine capsules, while, strange to say, the "*United States Pharmacopoeia*" entirely ignores the industry, and text books on pharmacy have little to say on it. "*Remington's Practice of Pharmacy*," 1894, describes the process used many years ago, but does not seem to be in possession of knowledge of the modern methods and machinery used. The "*American Journal of Pharmacy*" gives a condensed translation from "*Traite de Pharmacologie*"; but if one would become familiar with this industry in America, as founded by Mr. H. Planten, a Hollander by birth, in 1836, who had studied the different methods of the industry as used in France, let them write to the firm of H. Planten & Son, 93 Henry street, Brooklyn, N. Y., mentioning the AMERICAN VETERINARY REVIEW, and they will be presented with the little brochure referred to, "THE ART OF CAPSULATING."

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